OECD THEMATIC REVIEW OF TERTIARY EDUCATION

Country Background Report for Norway

The Norwegian Ministry of Education and Research
January 2005

Preface

This background report for the OECD-review of the Norwegian tertiary education system has been written by NIFU STEP, an independent research foundation, on behalf of the Ministry of Education and Research. At NIFU STEP, the following staff have been involved in the process: Per Olaf Aamodt (chapters 1 and 2), Clara Åse Arnesen (chapter 3), Åge Mariussen, Morten Fraas and Magnus Gulbrandsen (chapter 4), Markus Bugge, Eric Iversen and Aris Kaloudis (chapter 5), Vibeke Opheim (chapter 6), Svein Kyvik, Jens-Christian Smeby, Kirsten Wille Maus, Egil Kallerud and Terje Bruen Olsen (chapter 7), and Bjørn Stensaker (chapters 8, 9, 10, 11). Bjørn Stensaker was the editor of the report and was also the project manager on the NIFU STEP side.

A group consisting of representatives of various stakeholders in Norwegian tertiary education has actively supported the writing process, and been central in providing data and perspectives, and in commenting upon earlier versions of the report. This group consisted of: Thomas Såheim (Ministry of Labour and Social Affairs), Kjetil Digre (Statistics Norway), Ulf Lie (Norwegian Centre for International Cooperation in Higher Education), Jon Haakstad (Norwegian Agency for Quality Assurance in Higher Education), Kari Kjenndalen and Sigrid Lem (Norwegian Association of Research Workers), Tone Evje (Ministry of Trade and Industry), Jan-Arne Eilertsen (The Research Council of Norway), Iver Grøtting Prestkvern (Ministry of Local Government and Regional Development), Ola Stave, Guri Bakken and Arvid Ellingsen (The Norwegian Council for Higher Education), Ingrid Stranger Thorsen (National Union of Students in Norway), and Kaja Marie Bergum Pedersen (Norwegian Association of Students), Ane Marte Rasmussen, Unni Sandsdalen, Mads Gravås, Nina Rieker, Heidi Dybesland, Gro Beate Vige and Jan S. Levy (Ministry of Education and Research).

Jan S. Levy chaired the meetings of the reference group, and Gro Beate Vige was national co-ordinator for the review.

Oslo, January 2005
The Ministry of Education and Research

Content

Executive summary

1. Basic characteristics of Norwegian tertiary education are related to:

- the *public nature* of the sector, with the largest part of the student population attending public institutions *without tuition fees*
- a high *participation rate* in higher education in general, including a high proportion of *female and adult* students, and a high proportion of *Norwegian students abroad*
- higher education institutions (HEIs) enjoying a relatively *high share of public funding*
- low private investment in R&D
- a high proportion of research conducted in *public research institutes*
- a high number of *professors* in higher education due to a system of promotion based on individual research qualifications
- a *well integrated higher education system* with few barriers related to recognition of credits and study programmes between institution
- rather *old graduates*, but with relatively *little unemployment* for those with higher education
- little interest by students in *science* subjects.

2. Higher education in Norway consists of *different types of institutions* (universities, specialized university institutions, university colleges, and art academies), regulated by the Act on Universities and University Colleges. The differences between these types of higher education institutions are mainly related to their *self-accreditation rights*. For example, universities can without external accreditation offer study programmes at all levels, while university colleges must apply for external accreditation for study programmes at the master's and ph.d levels.

3. Study programmes at both public and private institutions lead to *bachelor's, master's and ph.d degrees*. A separate Act regulates private higher education. There are about 30 private HEIs in Norway with recognised study programmes, 21 of which receive public funding. With one exception, BI The Norwegian School of Management, these are small institutions with few students. The higher education sector is *well integrated*, with extensive and mandatory recognition of study programmes and degrees across institutional types, and through student mobility between institutions. Formally, tertiary education and research is the *responsibility of the Ministry of Education and Research*

4. Higher education in Norway is currently changing as a result of a *comprehensive* reform called the *Quality Reform*, which has been implemented since presentation of a 2001 white paper, and ensuing legislative amendments in 2002. The two main reasons for the Quality Reform are:

- The need for quality improvements in higher education and research (student drop-out, delays before graduation, emphasis on student learning, and better follow-up of students)
- The Bologna Process and Norway's obligations in that respect.

5. The *Quality Reform encompasses the following elements* (the chapters providing a more detailed description of each of the elements are indicated in brackets):

- Changes in governance structures at the institutional level allowing institutions more autonomy concerning organisation and management issues (chapter 8)

- Increased institutional autonomy, for example concerning the introduction and repeal of courses and study programmes (chapter 8)

- A new funding formula for the institutions more aimed at the accomplishment of results and institutional output than the former funding system (chapter 7)

- The introduction of a compulsory national quality assurance system and the establishment of an independent quality assurance agency (the Norwegian Agency for Quality Assurance in Education - NOKUT). Accreditation of institutional status and study programmes have been introduced along with systematic evaluations of institutional quality assurance systems (chapter 9)

- A new degree structure according to the Bologna Process, introducing a bachelor's, master's and ph.d degree system, and the launching of a new grading system based on the ECTS (see e.g. Figure 2.1)

- New forms of student guidance, evaluation and assessment intended to improve the follow-up of students, reduce drop-outs and study interruptions, and to stimulate students to complete their studies at a younger age (chapter 9)

- A new scheme for financial support to students. This measure is linked to the former point, in that it is designed to stimulate students to follow formal study progression schemes, and to complete their studies on time (chapter 7)

- More emphasis on internationalisation as a means to improve the quality of Norwegian higher education, and the establishment of the Norwegian Centre for International Cooperation in Higher Education (SIU) (chapter 10)

6. In general, the *labour market for higher education graduates* has traditionally been fairly good. However, labour demands have only to a modest degree determined the capacity of higher education (except for paramedical studies, teacher and engineering education). Rather, student demand for higher education has been the strong determinant even if the Ministry of Education and Research has regulated access in some fields of studies. The expansion of higher education throughout the 1990s kept unemployment down during this decade, though with a certain mismatch in certain disciplines, e.g. within the humanities and the social sciences. During the last decade, unemployment has risen also for those with a higher education background, even if unemployment in general is below the OECD average (see chapter 1). On the whole, the strong increase in the percentage of the population with a higher education qualification has not had a negative impact on the differences in earnings for people at different levels of education.

7. The *regional role of higher education* in Norway has traditionally been closely related to the main policy objective of trying to preserve the spatial distribution pattern of the population. Hence, the establishment of HEIs in various regions throughout the country has been a central characteristic of higher education policy during the last three decades (see also chapter 4). Studies show that this policy was

successful for the expansion of higher education in Norway. Still, the main centres of the R&D activities are to be found in the Oslo/Akershus and in the Trondheim (Sør-Trøndelag) regions. At present, however, national policy is more oriented towards stimulating the role of HEIs in the economic development of the regions. Hence, three national agencies are currently administering various policy instruments targeted to promote regional collaboration between HEIs, industry and society. At the institutional level, the present developments include closer cooperation between HEIs located within the same region, and between HEIs and other regional partners. The competition along the geographic dimension seems to be increasing.

8. The main points concerning the role of *higher education in research and innovation* include the division of labour between higher education and research centres/institutes in Norway (with the latter as a major actor in R&D/R&I), the steady share in overall resources and time spent on research, and the strong policy interest in stimulating research and innovation further in the latter years, especially in the fields of science and technology. At universities, time spent on research by the individual academic staff has been fairly stable over the past 20 years (with some variations between disciplines), and the share of basic research of total R&D expenditure also has been rather constant in the same period. On the policy side, several policy initiatives have been taken to stimulate research and innovation (see chapter 5). Examples include the launch of a strategy for stimulating education and research training in science and technology in 2002, the reorganisation of the Research Council of Norway (RCN) in 2003, and the development of a comprehensive policy for innovation launched in 2004. HEIs are currently active in developing technology transfer offices (or similar types of bodies), new courses and study programmes, and they have shown increased interest in establishing new partnerships with industry and business as a response to the new policy.

9. Concerning *tertiary education and its relation to national equity objectives* it is shown that, overall, Norway has a highly educated population and a high participation rate in tertiary education, which may imply a high level of equity in education in general (see chapter 6). Traditionally, the policy has been on developing universal arrangements and mainstreaming, rather than on need-based or targeted policies. This includes the system of student finance, through which all students enrolled in a tertiary study programme are entitled to financial support, and the fact that no tuition fees are charged in public tertiary education. Equity in education concerns both the access to and the opportunities provided in the system, as well as the actual results and outcome of different groups of students. Norwegian education policy has traditionally emphasised equity of opportunity. This may be illustrated by the geographic expansion and decentralisation of tertiary education in Norway, which has been successful in reducing geographic inequities in access to tertiary education. Policies relating to adults, to people with disabilities and special learning needs, and to people with immigrant background have also been focused on increasing participation in tertiary education. However, recent policy changes implemented as part of the Quality Reform indicate an increasing focus on equity of outcome. By increasing the follow-up of students, the goal is to increase progression and graduation rates in tertiary education, and to reduce drop-out.

10. Turning to issues concerning the *staffing and financing of higher education*, Norwegian higher education has a common appointment structure for all public HEIs. A particular feature concerning staffing is the high percentage of professors in Norway as share of total staff, which is partly a result of a system for promotion to professor based upon competence. Aggregated data show high stability concerning total time spent on research by individual academic staff, but there are concerns about

increasing lack of uninterrupted time for research, and the ageing of academic staff. The problem has partly been related to the average age of staff entering academic positions. The policy response to the problem is, amongst other things, to aim at increasing the number of ph.d fellowships and post-doc positions. Concerning funding, there have been changes in the funding of higher education in the past decade towards a more output-oriented system. An increase in institutional autonomy has taken place simultaneously. Data show that in the past decade, external funding of higher education (outside the annual budget from the Ministry of Education and Research) has increased, even if the share of state funding is still relatively high. The target level for R&D funding in Norwegian higher education (OECD-average) has not been met, despite a considerable growth in government appropriations for research over the past 5 years.

11. The *shape and structure of the higher education system* is characterised by a high level of integration of the various parts of the system, including the links across institutional types, between higher education and the upper secondary level, and including adult, continuing and vocational education (see chapter 8). At present, there are no formal barriers to recognition of credits and study programmes between higher education institutions. The dimensioning of the system has mostly been driven by student demand in the past decade, modified by government regulations for some fields of study. The institutional autonomy has also been strengthened in this period, and at present HEIs are increasingly responsible for capacity dimensioning issues (except for some resource-demanding studies, and study programmes of national importance). Institutional autonomy has increased along other dimensions as well (financial, administrative and concerning personnel). One result is strengthened institutional management as a response to the political initiatives to increase the strategic potential of HEIs. To support institutional autonomy, new and improved governance instruments have been established, including monitoring systems, and annual consultative meetings between the Ministry of Education and Research and the individual HEIs. As for the links between higher education and other parts of the system, reforms at the upper secondary level have contributed to creating stronger connections between the two levels. The *Competence Reform*, enabling students to enter tertiary education on the basis of an assessment of formal, non-formal and informal qualifications, is a vital element in this respect.

12. Mechanisms and policies for *assuring the quality of tertiary education* include the building up of a national system for quality assurance of higher education through the establishment of a system of institutional (and programme) accreditation and audit (of institutional quality assurance systems), and the establishment of NOKUT – a national independent agency responsible for these tasks (see chapter 9). NOKUT is also responsible for institutions under the Act for Vocational College Education. The Research Council of Norway (RCN) has a general responsibility for carrying out evaluations of publicly founded research in Norway. The establishment of the new quality assurance system for higher education is related to Norwegian commitments in the Bologna Process, as well as to domestic needs for ensuring and improving the quality of the educational provision. Data indicate that (first year) students are in general rather satisfied with the academic quality in Norwegian higher education, and that there are few perceived differences between HEIs concerning the quality of the education provided.

13. When analysing the impact that *internationalisation* is having upon policies for the tertiary education system, the main message is that Norwegian higher education policy increasingly emphasises the importance of seeing the national higher education system in its international context (see chapter 10). In the recently

implemented Quality Reform, internationalisation is seen as one of the key areas to enhance the quality of tertiary education and research in Norway, and as vital in realising Norway's commitment to the Bologna Process and to the creation of a European Research Area (ERA). Hence, traditional internationalisation activities like (individual) student and staff mobility are increasingly being enriched by policy initiatives intended to stimulate more formalised and organised education and research cooperation (especially within Europe), and by strategic initiatives by Norwegian HEIs. Norwegian HEIs are increasingly developing strategies for internationalisation. North – South cooperation, which has a long tradition in Norway, is important for many Norwegian HEIs, for the Ministry of Education and Research, and for the Norwegian Agency for Development Cooperation (NORAD).

14. With the many reforms implemented over the last decade, tertiary education in Norway has *undergone a major restructuring* (see chapter 11). The 2004 Bill proposing a new Act for higher education (to be decided in parliament in spring 2005) is a decisive step towards the restructuring of tertiary education.

15. The implemented reforms and changes can be seen as a continuation of long-term policy objectives of *expansion, integration and specialisation*. The demand for higher education has in the past decades been met with policy responses expanding the sector significantly, supported by a national interest in equality and access to education, which in turn also created some problems concerning student drop-out, and delays in graduation. The need to create a more dynamic, effective and efficient higher education system following the expansion of the 1990s, in turn triggered policy initiatives aimed at linking the various parts of the system more closely together, while also (in periods) encouraging division of labour whenever relevant. Towards the end of the 1990s, the efforts aiming at responding to the expansion of the system had in turn led to an increased policy interest and initiatives addressing the *quality of educational provision* and the *policy strategies* to reach this objective. This interest was founded on certain inefficiencies in the system and the fact that students "did not seem to succeed", resulting, amongst other things, in quite old graduates. The latter policy initiatives in certain ways mark a change from the past. Of course, quality assurance, internationalisation and governance are not novel areas in Norwegian higher education policy-making. The novelty aspects rather consist of the increased systematisation and the strong policy emphasis in these areas. As part of this effort, current political interests are focused on strengthening the strategic abilities and the autonomy of HEIs, on developing new and more refined instruments for institutional and national monitoring and reporting of outcomes, and on changing the funding arrangements of HEIs towards rewarding accomplishments and results rather than activities. In general, there is broad political agreement in Norway that higher education and research is vital to the future development of the country.

16. Statistics, evaluations and independent studies indicate that Norwegian higher education and research have several strengths. In a recent overview of the sector, Gornitzka (2003) found that *Norwegian higher education is in fairly good shape concerning academic quality*, and that the relevance of study programmes in relation to the labour market is very high. Further, evaluations of Norwegian research have indicated that some academic field are of very high quality (e.g. Mathematics, Information Science, Chemistry), and that research output is improving (e.g. as measured by the numbers of citations in international publications). However, even if it is too early to draw any definitive conclusions about the outcomes of the current reform efforts, *some broad concerns* can also be identified:

- Too few students – particular women – choose to study science subjects. Steps have recently been taken to improve the skills in these areas in primary and secondary

education, but it is too early to predict whether this will have the desired effects on future recruitment at the tertiary level

- Studies show that gender issues in higher education will remain important for future policy action. The majority of women still take short (3-year), vocational paramedical and social work programmes at university colleges. In addition, the proportion of women in top academic positions is far below a satisfactory level.

- Monitoring the development in student drop-out, interruptions in study progression, and delays to graduation is of particular interest after the Quality Reform.

- There are still too few foreign students and staff coming to (and staying in) Norway as part of the internationalisation of the sector, and it is desirable that more Norwegian students and staff spend time abroad as part of their studies or academic work

- International reviews of Norwegian research have indicated some concerns relating to the quality of the research conducted in certain areas, but especially to research management.

- Statistics still show that Norwegian investment in R&D is below the OECD average. It was estimated that Norway's investments in R&D constituted 1.72 per cent of GDP in 2003, while the OECD average in 2002 was 2.26 per cent. A specific feature characterising research funding in Norway is the relatively low contribution from the private sector, compared to the OECD average.

- During the implementation phase of the Quality Reform, academic staff have expressed concerns about lack of time available for research, and the working conditions related to conducting research.

- Given the political objective that higher education in Norway should be research-based, it is important to evaluate the consequences of the Quality Reform according to this dimension. Of special concern is how the changes in the institutional landscape following the Quality Reform might affect the way higher education is offered along the geographic dimension.

- Even if structural arrangements concerning the Competence Reform have been implemented and are working well, the effects of the reform are still below expectations, to a large extent due to little private funding.

17. The above list of concerns indicates important areas for future policy-making in tertiary education in Norway. Still, in the short term, policy emphasis will most likely have to be on *consolidation* after a period of major change and renewal. An evaluation of the Quality Reform is under way, and the first results from this process will be launched in autumn 2005, with more comprehensive results to be published in 2006 and 2007. Major policy adjustments related to the Quality Reform will most probably await the results of this evaluation.

18. Addressing more long term needs, future policy developments will focus on what is perceived as core issues for *balancing sustainability and continuous renewal* of Norwegian higher education. Important dimensions for future policy-making are (see chapter 11):

- Strengthening the strategic abilities and autonomy of HEIs.
- Developing new and more refined instruments for institutional and national monitoring and reporting of outcomes from HEIs.

- Further refining the funding arrangements of HEIs, aiming at rewarding accomplishments and results while safeguarding vulnerable and important academic areas and activities.

Chapter 1 The national context of tertiary education

1.1 Economic, social and cultural background

19. With a population of about 4.6 million people (2004), and a mainland size of 323,759 km2, the population density in Norway is only 14 per km2, one of the lowest in the OECD countries (OECD, 2000). Administratively, the country is subdivided in 19 counties and 434 municipalities (communes). 74 per cent of the population live in towns or built-up areas; the remainder comprise the dispersed rural population. The fact that many people live in remote rural areas serves to emphasize the importance of extensive public involvement in the provision of health, education and administrative services.

20. Norway has a state church, the Evangelical Lutheran Church, to which approximately 90 % of the population belong. The principle of freedom of choice in religion and the existence of the Lutheran State Church are two factors that have had a major influence on educational legislation and curriculum development (OECD, 2000).

21. The *Storting* is the Norwegian national assembly (Parliament) and comprises 165 representatives from the 19 counties. Politically, Norway may be labelled as a social democracy recognized by a concern for social justice and universal social rights, the wellbeing of all citizens, a high level of public welfare and a large, institutionalised public sector. The present (Jan 2005) government is a coalition of Conservatives, Christian Democrats, and Liberals, headed by Christian Democrat Prime Minister Kjell Magne Bondevik (since 2001).

22. Norway's economy is to a large extent based on the exploitation of raw materials; the fisheries and the production of oil providing the most important export products. The income from oil and gas production puts the situation of the Norwegian macro-economy in a favourable position. On the other hand, Norway is a high-cost country, and a high level of competence in the population is regarded as a necessary precondition to be able to compete on the international markets. According to OECD (2004), the gross domestic product (GDP) per capita was USD 42 000 (about NOK 260 000 according to the current (autumn 2004) exchange rate), compared to USD 23 100 (about NOK 143 000) for the whole of the OECD.

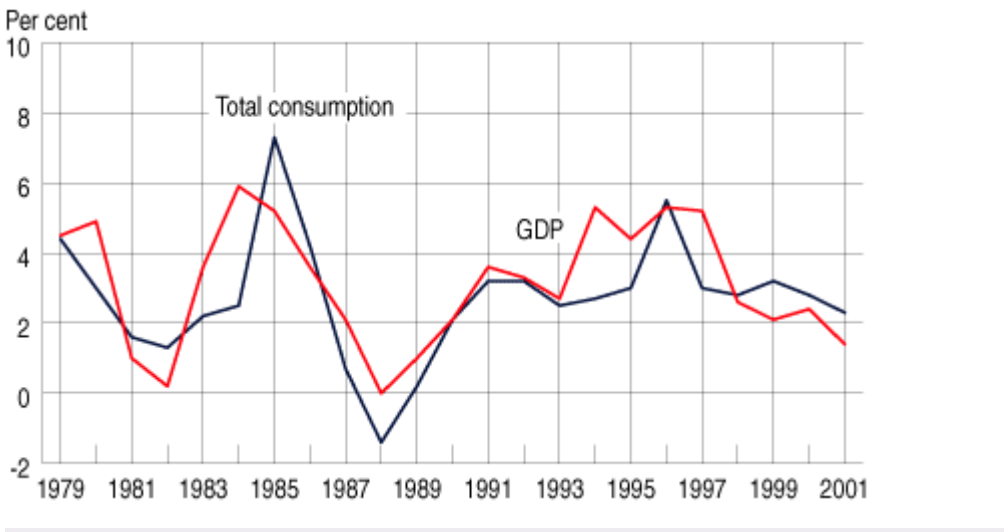
Table 1.1: GDP per capita 1998 - 2001

	1998	1999	2000	2001
Gross domestic product NOK per inhabitant	255 476	276 341	326 228	334 279

Source: Statistics Norway.

23. The GDP per capita has increased from about 255 000 NOK in 1998 to about 334 000 in 2001 in running currency, or 31 per cent. Figure 1.1 also shows that during the past decade, the GDP had an annual increase of between two and five per cent.

Figure 1.1: Changes in total consumption and GDP



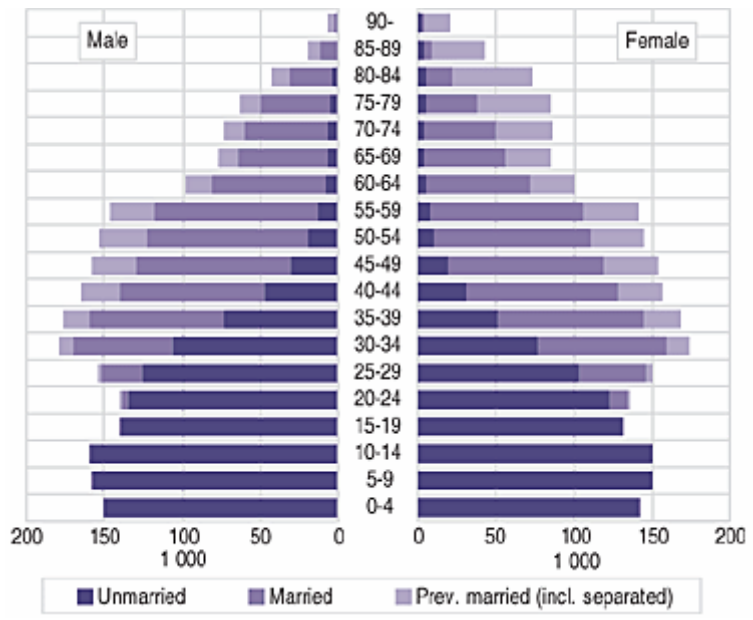
Source: Statistics Norway.

24. Norway is often regarded as a country of small social differences, in which values like equality and justice stand strong. Compared to other countries, Norway is recognized by relatively low levels of economic inequity due to a rather flat wage distribution and a low return to tertiary education (Asplund & Pereira 1999). On the whole, Norway has a well educated population, and few countries spend more resources on education than Norway. The Norwegian education budget accounts for 6.4 per cent of GDP, while the average for all OECD countries is 5.6 per cent (OECD 2004).

1.2 Population trends and cultural diversity

25. The population of Norway is 4.6 million, and the population increase was 0.46 per cent in 2001 and 0.62 in 2002. According to projections, the Norwegian population will reach 5 million in the early 2020s and pass 5.5 mill. in 2050.

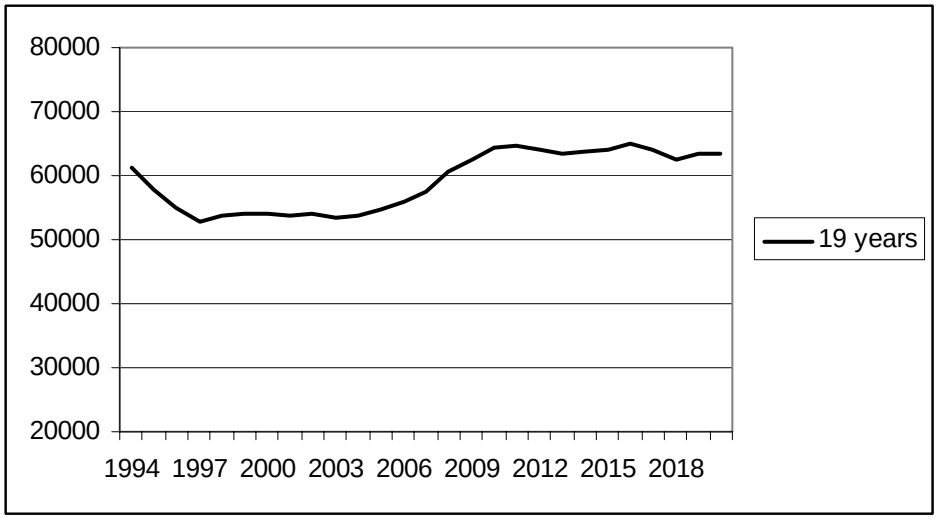
Figure 1.2: Population by sex, age and marital status, 1 January 2003



Source: Statistics Norway.

26. The population pyramid (figure 1.2) illustrates that there is a considerable drop in the size of the cohorts aged 30 - 34 to those aged 25 – 29. The population is ageing, and the ratio between the number in retirement and the labour force will increase. The most relevant figure for the entry into tertiary education, however, is the development in the cohorts of 19-year-olds (see figure 1.3). According to the projections below, the number of 19-year-olds will increase in the coming years, reaching a peak in 2010. At present, about 55 per cent of these cohorts enter higher education.

Figure 1.3: Number of 19-year-olds 1994 – 2004, and projections 2005 – 2020*



The projection is based on average fertility, average living age and average net immigration.
* Between 1994 and 1997, the cohorts aged 19 dropped rapidly from 61 000 to about 53 000, and they have remained quite stable at that level until the present. Already from 2006, however, these cohorts begin to increase, and are expected to reach 64 000 in 2010. If the number of new entrants to tertiary education follows the demographic trend, we could expect an increase in enrolment of about 20 per cent in a few years. After that, the age group will remain stable until 2020.

27. Norway is in many ways a homogeneous country with a small, scattered population speaking the same language and belonging to the same culture. Nevertheless, like almost every other country, it has always consisted of an ethnic and cultural combination of peoples. In addition to the majority population, the Norwegian population includes groups of indigenous minorities, national and language minorities, and the immigrant population[1].

28. The Sámi (frequently and incorrectly referred to as "Laplanders") is an indigenous people living in Finland, Sweden, Russia and Norway. They form an ethnic and cultural minority in Norway, with a population of about 75 000, or 1.7% of the total population. The majority of the Sámi live in the northern part of the country or else in the capital (Oslo).

29. Norway's immigrant population has increased significantly during the past 30 years. In 2004, the immigrant population in Norway accounted for 7.6 per cent of the total population, three times as much as in 1980. In recent years, immigration from Asia, Africa, South and Central America, and Turkey has increased most rapidly (see table 1.3).

[1] The immigrant population as referred to in this report includes persons who have two foreign-born parents, or more precisely: Persons who have neither parents nor grandparents born in Norway. The immigrant population thus covers first-generation immigrants and persons born in Norway of two foreign-born parents.

Table 1.3: Population by country of origin 1994 - 2004

	1994	2000	2004
Norway	4 119 217	4 196 010	4 228 517
Nordic countries	39 060	53 445	53 940
Other Western European countries	28 581	33 097	35 906
Central and Eastern Europe	26 321	46 098	56 339
North America and Oceania	10 338	9 578	9 456
Asia, Africa, South and Central America, and Turkey	101 298	140 269	193 299

Source: Statistics Norway

The largest group of immigrants come from Asia, Africa, Latin America or Turkey. In ten years, the number is almost doubled. Within this group, the majority come from Asia, and people from Pakistan constitute the largest single group. The strongest increase is among people from Central and Eastern Europe.

1.3 The Labour Market in Norway

30. The labour market in Norway is characterized by a high rate of participation and low unemployment compared to most other OECD countries. In the first quarter of 2004, the unemployment rate was 4.3 per cent, against an OECD average of 7.0 per cent. The unemployment rate rose sharply from the end of the 1980s to 1993, when it peaked at 6.6 per cent. From 1993 to 1998, unemployment declined to 3.2 per cent, but a new downturn in the business cycle caused a new increase in unemployment to 4.5 per cent in 2003. The labour force participation rate is also high: of 79% in 2003 (ages 15-64), compared to an OECD average of 70%.

31. The high labour force participation rate is due to a high female participation rate (76% in 2003 as compared to an OECD average of 60%), and a high average retirement age. However, a high percentage of working females are part time workers.

32. In recent years, the growth in the workforce participation rate has stopped and even declined slightly. At the same time, the number of people on social security (including disability pensions, sickness benefits, etc.) is increasing. The government has taken up this challenge through measures like changes in the national insurance act and increased emphasis on vocational rehabilitation. The employment situation is elaborated further in chapter 3.

Chapter 2 Overall description of the tertiary education system

2.1 Introduction

33. In this chapter the main features of the Norwegian higher education system is described. Basic characteristics are related to the public nature of Norwegian tertiary education, with the largest part of the student population attending public institutions without tuition fees and with higher education institutions (HEIs) enjoying a relatively high share of public funding. There are about 30 private HEIs in Norway with recognised study programmes, 21 of which receive public funding. With one exception, BI the Norwegian School of Management, these are small institutions with few students.

34. In the Norwegian system, the terms "tertiary" and "higher" are for almost all practical purposes interchangeable. However, the small vocational college education sector (*fagskoler*, ISCED 4) is in Norway not a part of the "higher education" sector (ISCED 5 and 6)[2]. Hence, in the report, the term "tertiary education" denotes that the vocational colleges are included and the term "higher" that they are not.

35. Higher education in Norway according to this definition of the term, consists of different types of higher education institutions (HEIs), regulated by the 1995 Act on Universities and University Colleges, and the 1986 Act on private higher education. Study programmes at both public and private HEIs lead to bachelor's, master's and ph.d degrees. The higher education sector is well integrated, with extensive and mandatory recognition of study programmes and degrees across institutional types, and through student mobility between institutions. Formally, tertiary education and research is the responsibility of the Ministry of Education and Research.[3]

Table 2.1: Students and staff in higher education in 2003.

	No. of institutions	Students	Staff
Total		209 770	24 608
Universities	4	71 252	13 375
Specialized university institutions	6	7 501	1 981
National Academies of the Arts	2	851	221
University colleges	26	98 315	9 030
Other colleges (police, etc)	-	1 421	-
Private colleges	21	30 430	-

Source: Statistics Norway and National Database on Higher Education

36. Table 2.1 shows the overall size of the Norwegian higher education system. The number of students is close to 210 000, while the total number of staff member (all categories) is about 25 000. The university college sector is the largest one in terms of student numbers, while the number of staff members is largest at the

[2] Compared to the rest of the tertiary education system, vocational college education is rather small. Within technical college education the number of students in 2004 was only about 3 300 (see also chapter 8).

[3] The Ministry of Education and Research has changed names over the years. In this report, the present name will be used.

universities. More details about the size of the sector will be presented in a later section.

37. In the last decade, State governance of higher education has changed considerably, from a system emphasising input factors and relatively strong central steering to a system more geared towards output and results, and increased institutional autonomy and accountability. Based on the White Paper entitled "Do your duty – demand your rights" (St.meld. nr. 27 (2000-2001)), a reform of higher education called the Quality Reform is in the process of being implemented, representing a further strengthening of the institutional autonomy. This reform is a comprehensive effort to further change Norwegian higher education, both relating to the Bologna Process and the efforts to create a European Higher Education Area (e.g. introducing the bachelor-master-ph.d structure according to the 3+2+3 model), and to domestic needs for quality assurance and improvement in higher education.

38. Some of the domestic issues addressed by this reform relate to the expansion in student numbers in Norwegian higher education during the 1990s, and to problems concerning delays before graduation, drop-out, and the age of graduates. One of the slogans associated with the Quality Reform was that "students should succeed". This objective has been sought accomplished through improved individual follow-up of students (e.g. by means of individual education plans[4]), but also through more structured study programmes and more varied forms of assessment of student performance.

2.2 The Norwegian education system in brief

39. Before elaborating on the system and the policy for tertiary education in Norway, it is useful to present a brief picture of the education system. This section only comments on primary and secondary education, while higher education is presented more in detail in a separate section. It should be noted that in this report, the word 'education' is generally used in the meaning 'education and training'. This is due to the fact that the Norwegian system is comprehensive in the sense that as a rule the same schools and higher education institutions provide both academic, or general, education and vocational training, and that whenever they are provided separately there is no formal distinctions between schools providing vocational training and those providing general education. Figure 2.1 presents the main educational structure for all levels.

40. Compulsory schooling in Norway is of ten years' duration[5] and include primary and lower secondary education. Children start school at the age of six[6] (see Figure 2.1). All children living in Norway have a right and an obligation to participate and complete compulsory education. The responsible administrative unit is the local municipality. Compulsory education is divided into ten grades with pupils organised in groups of various sizes. Education in public primary and lower secondary schools/institutions is provided free of charge. In these schools, textbooks are also free of charge. Norway has a low share of pupils in special schools. The Norwegian policy is to offer education for pupils with special needs within the general system instead of placing them in separate schools.

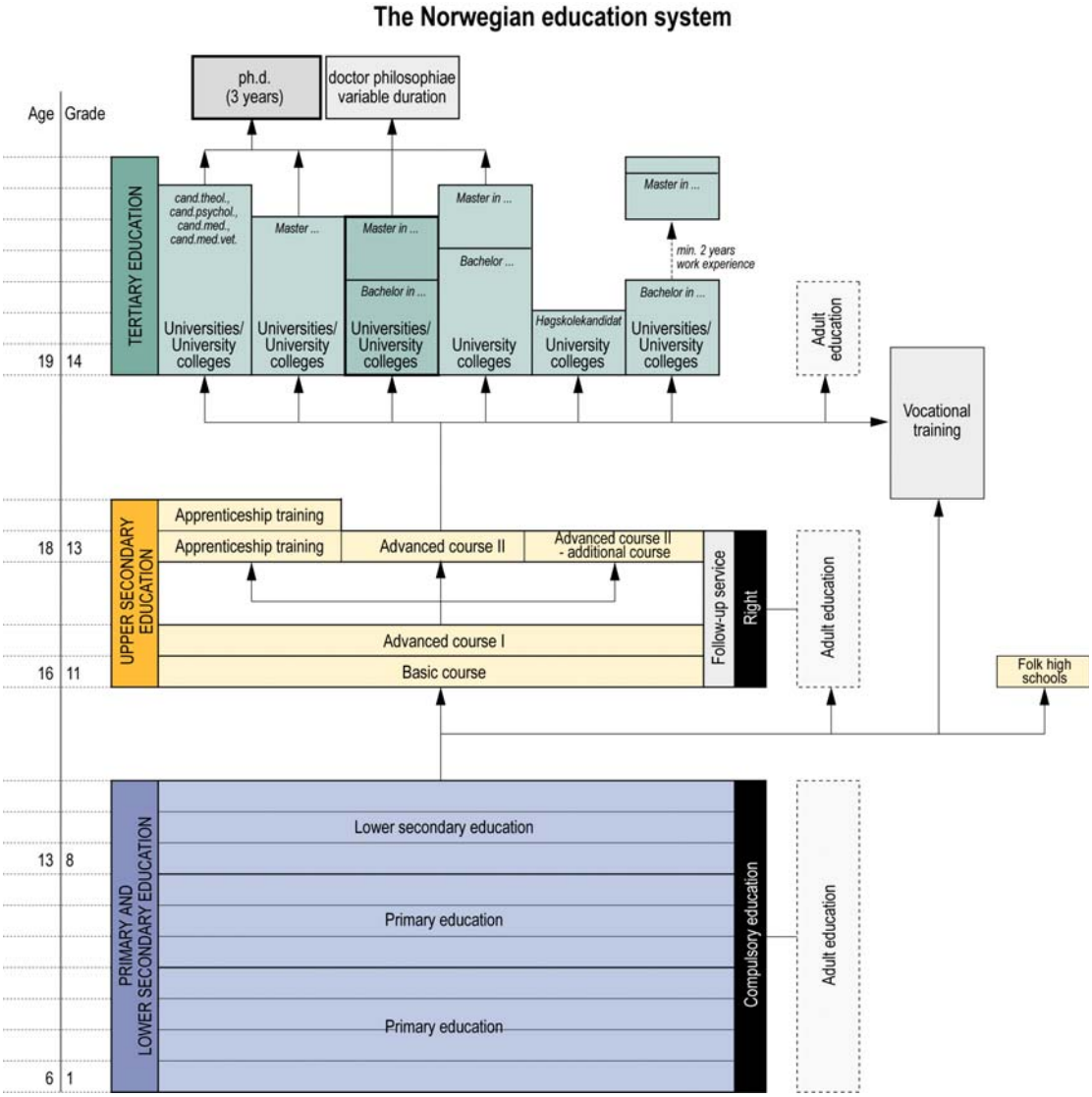
[4] An individual education plan is an agreement drawn up between an individual student and his/her university/university college.
[5] Starting with the cohort born in 1991. It is nine years for cohorts born in 1990 and earlier.
[6] Cohorts born in 1990 and before started at the age of seven.

41. Upper secondary education (see figure 2.1) embraces courses leading to educational qualifications above the lower secondary level and below the level of higher education, and is also free of charge at public institution, catering for an overwhelming majority of pupils. Since the autumn term 1994 (Reform 94), everyone between the ages of 16 and 19 has a statutory right to three years of upper secondary education, leading either to entrance qualifications for higher education, to a vocational qualification, or to partial qualifications. The statutory right is valid for five years after finishing compulsory education (i.e. transition to upper secondary education may be postponed for up to two years). Completed upper secondary education qualifies students and apprentices for an upper secondary leaving certificate. The type of certificate received will depend on the type of qualification obtained during upper secondary education. The main types include:

- A craft or journeyman's certificate (for qualifications in apprenticeship trades).
- Other vocational qualifications (for vocational training in school).
- Higher education entrance qualifications (for completion of three years of upper secondary education and including a minimum level of achievement in six basic subjects).
- Advanced supplemental course qualification (two years of vocational studies followed by one year with general subjects in order to receive qualifications to enter higher education in addition to vocational qualifications).
- Documented partial qualifications (for students who only complete parts of upper secondary education and training).

42. In 2003, a new act formally established vocational college education (labelled as vocational training in figure 2.1 below) at the ISCED 4 level as a shorter and professionally-oriented alternative to higher education. The vocational college education builds upon upper secondary education or corresponding competence, and lasts between a minimum of six months and a maximum of two years full time (covering areas such as technical and naval education, paramedical and social work education, etc.). Due to the recent introduction of the act, relatively few students attend vocational college education.

Figure 2.1 General structure of the Norwegian education system



2.3 Purposes and objectives of higher education

43. The aims of the national policy on higher education in the past decade were defined through a 1991 white paper on higher education (St meld nr. 40 (1990-91), "Fra visjon til virke") and the ensuing parliamentary debate. These aims were reiterated in all the budget proposals during the 1990s, and are still important as an underlying rationale for higher education policy-making, not least through general political backing from the *Storting* (Norwegian Parliament). According to these aims, higher education should:

- contribute to enhance the capacities and abilities of the population in such a way that consideration is taken both to the interests of the individuals, and to the country's need for a highly educated work force.
- improve the quality in higher education and research
- ensure that applicants to higher education institutions are given equal treatment (in terms of access)
- promote conditions at the universities and colleges that are favourable to the development and transmission of new knowledge

- use the resources of the sector more effectively
- reduce the time actually spent by students before graduation, so that the lengths of study periods needed correspond more closely to the formal requirements.
- encourage increased international cooperation in higher education and research.

44. In Norwegian legislation on higher education, there are no explicit formulations concerning the overall purpose of higher education. However, the 1995 Act on Universities and Colleges, substantially amended in 2002, specifies the aims and activities of the institutions (see chapter 8). This Act also states the importance of the institutions cooperating with industry, and of their contribution to the economy and society in general. Following the Quality Reform, a new Act on Higher Education is to be decided in Parliament in the spring 2005[7]. The above-mentioned responsibilities are stated more explicitly in the proposed new Act (see chapter 8).

45. The 1995 Act does not explicitly mention equity as an objective for higher education. But although it is not legislated in a strict sense, equitable access to tertiary education should be considered an important goal, as it is mentioned in a number of policy documents, particularly the 2003 White Paper "*Dismantling of Disabling Barriers"* of the Ministry of Social Affairs (see chapter 6). On the other hand, the Act specifies the requirements for access to higher education. Public higher education in Norway is free of tuition for ordinary students, but the new Bill, for the first time, proposes to introduce a provision that education as a rule should be free of charge.

46. The most obvious tension in the system concerns the differentiation of activities and responsibilities between universities and university colleges, especially on the possibilities and the resources for research and research training. For many decades, some colleges have strived to become universities, while the national policy was to limit the number of universities to the four in Oslo, Bergen, Trondheim and Tromsø, and to concentrate research funding mainly to these institutions. As part of the Quality Reform, however, there has been a change in this policy towards opening up for institutions to change their status. Through the 2002 amendment of the Universities and Colleges Act, university colleges and specialized university institutions may apply to be accredited as universities. Already, the first two institutions, a former university college and a former specialized university institution have been accredited, and are universities as from 1 January 2005 (as University of Stavanger and University of Environmental and Life Sciences, respectively). In addition, the (private) Norwegian Lutheran School of Theology is accredited as a specialized university institution from the same date. Some other HEIs are in the process of applying for a changed institutional status.

2.4 Central policy actors

47. The majority of Norwegian higher education institutions are state owned, and also get most of their funding from the state. State coordination has generally been strong in Norway. However, policy-making in Norway is generally dialogue-based and consensus-oriented. Policies and decision-making are generally not imposed on the institutions from the Government, but shaped through dialogue and negotiation. Very often, policies are developed with the use of commissions. Most commissions are appointed by the Government ("Royal Commissions"), which also formulates the

[7] Proposition to the *Odelsting* (Bill) no. 79 (2003-2004). "Om lov om universiteter og høyskoler".

terms of reference. The composition of commissions may vary, but their members are normally selected from the sector and/or from important stakeholders. Once appointed, commissions work independently from the ministry, and the proposals generally reflect the views of the different interest and stakeholder groups. On the other hand, the ministry is free to choose whether to implement the proposals from the commission or not, and often develops the proposals further, based on formal consultations with stakeholders. A certain legitimacy and support is nevertheless secured by these procedures.

48. There are no real buffer organisations or central directorate in the Norwegian tertiary system, but three governmental agencies should be mentioned:

49. The Norwegian Agency for Quality Assurance in Education, NOKUT, was established by the Storting, and commenced its activities 1 January 2003. NOKUT is an independent government body. NOKUT's board is appointed by the Government, and has 7 members, of whom one is a student. The present board is headed by a professor at one of the institutions, and has representation of both internal and external members. Even if NOKUT is a new organisation, it has continued some of the tasks of the former Network Norway Council. The purpose of NOKUT is to supervise, control and help develop the quality of higher education in Norway. NOKUT's tools are evaluation, accreditation, and the recognition of quality assurance systems, institutions and course provision. As from 1 January 2004, each institution of higher education is obliged by law to have its own quality assurance system. NOKUT also assesses applications for establishing study programmes, and accredits state institutions applying for a change in status, as well as private institutions applying for institutional accreditation.

50. *The Research Council of Norway (RCN)* is another very important actor for the higher education sector. The main responsibility of the Research Council of Norway is to fund research, but also to play a role in the development of Norwegian policies and strategies on R&D. In this respect, the Research Council also strongly affects policies on higher education institutions. An example is the establishment of centres of excellence in recent years. The Research Council also conducts a series of research evaluations of selected disciplines that may have a major impact on the institutions.

51. The third agency is the *Norwegian Centre for International Cooperation in Higher Education (SIU).* It was set up as a government agency from 1 January 2004 to promote international cooperation in education and research, and to coordinate national measures concerning internationalisation of higher education. The Centre is commissioned by several national and international public organisations to administer programmes within all levels of education. In addition to programme administration, SIU is responsible for promoting Norway as an education and research nation, as well as for providing information and advisory services within the field of internationalisation in higher education (see also point 10.3).

52. In addition to the above-mentioned government agencies, important policy actors for the sector include the following:

53. *The Norwegian Council for Higher Education* is a parallel to the rectors' conference found in many countries. It was founded in 2000 as a merger of the Council for State Colleges and the Norwegian Council of Universities. The Council is a co-operative body for all the state HEIs (universities, specialized university institutions, university colleges, and art academies) and has no legal status in the system. The aims of the Council are:

- to develop strategies for the Norwegian system of higher education institutions,
- to promote co-ordination within the higher education sector,
- to serve as a common instrument for the member institutions

54. The Council has set up national councils for professional education (teacher education, education in engineering and technology, business studies and health and social work education), national conferences within the major disciplines, as well as committees for research, education and administration. Even if the Council has no formal and legal status in the system, it plays an important role in policy-making and in raising issues of interest for all the institutions.

55. The private higher education institutions have established their own organisation (the *Network for Private Higher Education Institutions*) with similar functions as the Norwegian Council for Higher Education.

56. It should be added that the *Norwegian Association for Research Workers,* as well as the two major student unions, *the National Union of Students in Norway* and *the Norwegian Association of Students,* also play important parts in Norwegian higher education policy-making.

2.5 Major changes in the last decade

57. The period since 1990 is characterised by major changes and reforms in higher education. Some of these changes have already been mentioned in previous sections. To some extent, they reflect the strong expansion in enrolment, especially at the universities, between 1987 and 1994. During this period, Norway definitely moved into the stage of mass higher education, and university enrolment doubled in few years. There were many causes for the increased interest in studies in higher education, but an increasing unemployment rate, especially among the young generation, was a major factor. Another was a change in the attitude to taking higher education. The costs of the expansion in the number of study places were to a large extent covered by means from the budget allocated for labour market measures. Even if the expansion in higher education, and especially in the university sector has levelled out since the mid-1990s, enrolment has continued to grow in the university college sector.

58. In the second half of the 1980s, there was a general concern for stagnating enrolment to higher education, based on the reduction of the relevant age groups. When the strong growth in individual demand started after 1987, this came as a surprise. The expansion was, however, supported politically, and also linked to the needs of the economy and future development for a highly competent workforce. The fact that the income from the oil sector is expected to drop in the long term, puts a focus on the importance of investing in the future through competence-building and research. With its high income level, Norway has difficulties in competing on the global market, and it is hence considered necessary to concentrate on production based on knowledge. These arguments for prioritising higher education and research are being heard more and more frequently.

59. Since the early 1990s, there has been an increased focus on quality in both research and education. The emphasis on quality in education has been strengthened in the recently implemented Quality Reform, introducing reforms in teaching methods as well as assessments, more structured study programmes at the undergraduate level,

and a closer relationship between student and institution[8]. The quality development has also brought with it the systematic use of student evaluations, which may also reflect a more customer-oriented relationship between institution and students. This aspect may be underlined by the fact that during the reference period for the report, the balance between the capacity and the number of applicants has changed from one of strong competition for study places towards one of competition among institutions to attract students.

60. The policy of linking the university sector and the university college sector more closely together began in the early 1990s (St.meld. nr. 40 (1990-91)). The white paper published then launched the idea of a "Network Norway" for higher education. The argument for this establishment was that Norway was a small country with few resources and talents for research, and that increased coordination and specialisation concerning academic fields and disciplines had to be implemented at the national level. The aims and objectives of Norwegian higher education institutions have traditionally been stated in quite general terms allowing for a certain degree of institutional discretion. The idea of a "Network Norway" can be said to have challenged this idea in that the intended coordination and specialisation should be up to the Ministry to decide after consultations with the sector. To be able to realise this idea, a more solid institutional base for teaching and research had to be created in the college sector. A merger in 1994 of 98 former regional colleges into 26 new university colleges was the result. This merger was based on both efficiency and quality objectives.

61. Until then, the college sector, organised as such in 1976, comprised a wide range of institutions. At the most, 127 regional and vocational colleges existed, many of them very small. There was also a certain overlap in the sense that different institutions were teaching similar subjects within the same region. The college reform of 1994 aimed at solving some of these problems, and to contribute to a consolidation and concentration of resources. None of the former separate institutions were closed down during this process, and a number of the new university colleges became multi-campus institutions. The main effect according to the evaluation of the reform in 1999, was that most changes at that time were related to the administrative level, while the changes in the basic activities varied.

62. Even though the "Network Norway" can be linked to the idea of central planning, the white paper also did argue for more delegation of decision-making powers from central authorities to the higher education institutions. The basic idea was that central authorities wanted control over what sort of study programmes that should be offered where, while the institutions decided on how these study programmes should be designed (St.meld. 40 1990-91). During the 1990s, national responsibility for several academic specialisations (nodes) was also given to a number of the institutions. However, the 1999 evaluation showed that the impact of these nodes was not as expected, neither at the national nor at the institutional level (Norgesnettrådet 2001). Institutional difficulties in allocating enough resources to the nodes, and political disagreements within institutions on how to develop them, were some reasons for the lack of results.

63. From 1993 and onwards, two important reforms concerning academic staff were implemented. First, common qualification criteria for appointment and promotion for all academic staff were introduced throughout public higher education. This first and foremost strengthened the academic claims on the university college

[8] The Quality Reform is currently being evaluated, but the first results from this evaluation are not available until autumn 2005.

staff, and has raised concerns about a possible corresponding weakening of the vocational and practical aspect within professional education and training. The introduction of the principle of research-based teaching in all higher education points in the same direction. Second, new regulations were introduced for the appointment of professors in 1995. Since then, instead of the previous system of limiting the number of professors to a fixed number of positions, all staff members who have been assessed as qualified to be professor, are appointed or promoted to professor. The reform has, according to Kyvik, Olsen & Hovdhaugen (2003) had positive effects on the career possibilities among academics (see also chapter 7).

64. In recent years, there has been a stronger political focus on higher education and R&D as tools for the development of society. In general, there is a predominantly positive, optimistic view in higher education, but also stronger external demands and expectations.

2.5.1 The Quality Reform

65. It is impossible to describe and analyse the present status of higher education in Norway without reference to the latest reform of the sector – the Quality Reform. This reform, implemented since a 2001 white paper, and amendments in legislation in 2002, is referred to throughout the report. The two main reasons for the Quality Reform are:

- The need for quality improvements in higher education and research (student drop-out, delays before graduation, emphasis on student learning, and better follow-up of students)
- The Bologna Process and Norway's obligations in that respect.

66. The Quality Reform encompasses the following elements (a more detailed description of each element is given under the relevant chapter in this report):

- Change in governance structures at the institutional level allowing institutions more autonomy concerning organisation and management issues (chapter 8)
- Increased institutional autonomy, for example concerning the introduction and repeal of courses and study programmes, and what study programmes institutions want to offer (chapter 8)
- A new funding formula for the institutions more aimed at the accomplishment of results and institutional output than the former funding system (chapter 7)
- The introduction of a compulsory national quality assurance system and the establishment of an independent quality assurance agency (the Norwegian Agency for Quality Assurance in Education - NOKUT). Accreditation of institutional status is introduced along with systematic evaluations of institutional quality assurance systems (chapter 9)
- A new degree structure according to the Bologna Process, introducing a bachelor's, master's and ph.d degree system according to the 3+2+3 model, and the launching of a new grading system based on the ECTS (see e.g. Figure 2.1)
- New forms of student guidance, evaluation and assessment intended to improve the follow-up of students, reduce drop-out and interruption of sudies, and to stimulate students to complete their studies at a younger age (chapter 9)

- A new scheme for financial support to students, linked to the former point in that it is designed to stimulate timely completion of studies (chapter 7)

- More emphasis on internationalisation as a means to improve the quality of Norwegian higher education, and the establishment of the Norwegian Centre for International Cooperation in Higher Education (SIU) (chapter 10)

67. So far, the formal processes of this reform have included:

- April 1998: Royal Commission appointed to examine the system of higher education in Norway

- May 2000: Royal Commission's Green paper[9] presented

- March 2001: A white paper submitted to the Storting (national assembly)[10]

- June 2001: Parliamentary debate and decisions

- Spring 2002: five white papers on specific issues[11]

- July 2002: necessary legislative changes introduced, based on two bills[12] submitted in spring 2002.

- June 2004: Submission of Bill proposing a new law on higher education, both public and private (the proposal to be decided upon in the *Storting* in 2005)[13]

2.6 The present governance and regulatory framework

68. State (public) higher education in Norway is regulated by the Act relating to Universities and University Colleges from 1995, amended as of 1 July 2002 and 1 January 2003 as part of the Quality Reform. Private higher education is regulated in a separate Act from 1986, also amended in 2002.

69. The Act relating to Universities and Colleges regulates the overall activities of the public institutions, and, since 2003, defines the activities of the Norwegian Agency for Quality Assurance in Education, NOKUT. The Act states that it is the Government that decides institutional status, the regulations deciding the length of study programmes, and what title the degrees or programmes lead to. Within this framework, the institutions that are accredited by NOKUT have the right to decide what programmes and subjects the institution can offer.

70. Further, the Act has provisions regarding access to higher education, as well as for examinations, assessment, certificates and diplomas. The Act regulates the rights and the duties of students, including student representation in the governing bodies of the institutions. The Act also regulates the governing system at the institutional level of the institutions, i.e. the responsibilities, composition and system of appointment of

[9] NOU 2000:14 Frihet med ansvar Om høgre utdanning og forskning i Norge.
[10] St.meld. nr. 27 (2000-2001) Gjør din plikt – Krev din rett Kvalitetsreform av høyere utdanning.
[11] on exceptions to the new degree structure, on recruitment of academic staff, on higher education in the arts, on Sami higher education and research, and on teacher education
[12] One amending the acts on state higher education and on health personnel, and one amending the act on private higher education
[13] Ot.prp. nr. 79 (2003-2004) Om lov om universiteter og høyskoler (Proposition to the Odelsting (Bill) no. 79 (2003-2004) relating to Act on higher education)

the board, and the responsibilities of the rector. Below the institutional level, however, HEIs have a high degree of autonomy in deciding internal organisation and management structure (see chapter 8)

71. The other main source of regulating the activities of the tertiary education institutions is through the annual budget, which is proposed by the Government and decided by the *Storting*. The budgeting system has been changed during the last years towards less detailed allocations and more freedom for the institutions (see chapter 7). At the same time, the funding system has become more incentive-oriented. Both these developments will be emphasised further on (see chapter 11). The new funding system implemented through the Quality Reform allocates funds according to a formula based on a combination of a fixed component and components based on results in education and research. As part of the budget and monitoring process, the Ministry of Education and Research conducts annual consultative meetings with each institution. These meetings are important in the coordination and governance of higher education.

2.7 Institutional landscape

72. The present higher education system is the result of a development going on since around 1970. A new college sector was then created through a combination of upgrading traditional institutions for teacher training, engineering, social work and paramedical education, and the establishment of new regional colleges (distriktshøyskoler). As mentioned earlier, all 98 of them were merged into 26 state colleges, later university colleges, as of 1 August 1994. Norway is among the countries with the highest share of its students in this "non-university" sector.

73. Today, the different categories of higher education institutions are as follows:

Universities (see table 2.2 for student numbers): Broad institutions, covering most disciplines, main national responsibility for research training.

- University of Oslo: founded 1811
- University of Bergen: founded 1946
- Norwegian University of Science and Technology (NTNU): founded 1996
  - Its predecessor, University of Trondheim was a merger of the College of Arts and Science, the Norwegian Institute of Technology (established in 1911), and the Museum of the Royal Norwegian Society of Science (1760). Included in the 1996 merger were also the Faculty of Medicine, the Trondheim Academy of Fine Arts and Trøndelag Conservatory of Music.
- University of Tromsø: founded 1968

74. As from 1 January 2005, two universities have in addition been established after passing the new institutional accreditation procedures.

- University of Stavanger (a former university college)
- University of Life Sciences in Ås (a former specialized university institution in agricultural studies)

75. *Specialized university institutions:* In 2005, there are 5 public one specialising in the following fields: veterinary medicine, architecture, physical education and sports, music, and economics and business administration. These institutions offer professional programmes at advanced (master) and postgraduate level, doctoral degrees, and have a national responsibility for research within their fields. In addition, one private institution, the Norwegian Lutheran School of Theology, is accredited as a specialized university institution as from 1 January 2005.

76. *University colleges* (former State Colleges): The university colleges predominantly offer 3-year professional programmes, but there are also programmes of various lengths (from one to five years, for example in teacher training). The university colleges also offer some master's and a few doctoral programmes, and have research responsibilities in fields where they award doctoral degrees. In addition, most university colleges offer some programmes which parallel undergraduate university subjects, mainly 1-year programmes. These programmes allow students to continue at universities, but are also popular as continuing education for adults (The University College of Stavanger is the first (and so far only) university college to be accredited university status, see above).

77. *Other colleges:* This category includes military colleges, and the National Police Academy.

78. *Private tertiary education institutions:* This category covers a broad range of institutions and tertiary programmes. Some institutions offer professional programmes parallel to the university colleges (teacher training, nursing, social work or engineering), some offer master's and even doctoral programmes. The largest number of students are found within business administration. Some institutions offer religious study programmes as ISCED levels 4 and 5, others at levels 5 and 6. The largest institution, BI Norwegian School of Management has about 20 000 students (including part-time students), most of them on undergraduate level or shorter courses, but there are also master's and doctoral programmes. (The Norwegian Lutheran School of Theology is the first private institution to be accredited as a specialized university institution, see above).

79. The differences between types of higher education institutions are mainly related to their self-accreditation rights. For example, universities can without external accreditation offer study programmes at all levels, while university colleges must apply for external accreditation for study programmes at master and PhD-level.

80. However, there is no formal, or even informal, hierarchy of institutions within each category. Opinions vary concerning the quality of different study programmes or disciplines, but there is no ranking of what is the best university or the best university college. There have been some attempts of making such rankings, but so far none of these have attained any general acceptance.

81. There is one separate institution with a specific responsibility for continuing and further education (Norway Opening Universities, see also point 8.6.3). However, according to the Act, this is a responsibility for all higher education institutions. The HEIs offer a broad range of courses, both general and profession-specific, often in close cooperation with industry, public administration or professional organisations. The institutions have the right to charge fees for such courses. In addition, Norwegian institutions have a large but not easily identifiable number of students, mainly part-time, who follow courses together with ordinary students.

82. The introduction of a degree structure according to the 3 + 2 (+ 3) model, compulsory at the latest for all students beginning their studies in autumn 2003 (while

keeping pre-reform degrees in a transition period) is partly a response to the *Bologna Process (cf. above).* There were also national needs for reforming the degree structure, however: to shorten the long duration of the studies, particularly in the humanities and the social sciences, to improve the links to the labour market, and to simplify the degree system. Some professional study programmes in the university sector (e.g. medicine, psychology, architecture and industrial design, pharmacy, theology) have kept their one-tier structure. Some teacher education programmes and study programmes in music have retained their 4-year programmes.

83. The majority of professional programmes within the university college sector have been redefined into the bachelor structure. The lower university degree, the former 3 ½ - 4-year *cand. mag. degree*, has been transformed into the new three-year bachelor's degree. There is a broad range of bachelor programmes offered by the universities – predominantly discipline-oriented, interdisciplinary, and also professionally-oriented programmes. Although increasing numbers of master's programmes are being introduced at the university colleges, most master's programmes are found within the university sector. The master's degree, too, includes both discipline and professionally oriented programmes.

Table 2.2 Number of pre-reform degrees and qualifications. 2002-2003

Type of institutions	Lower level	Higher level
Total	22 717	6 659
University sector (including specialized university institutions)	3 570	5 898
University colleges	15 435	494
Other colleges (including art and private institutions)	3 712	267

Source: Statistics Norway

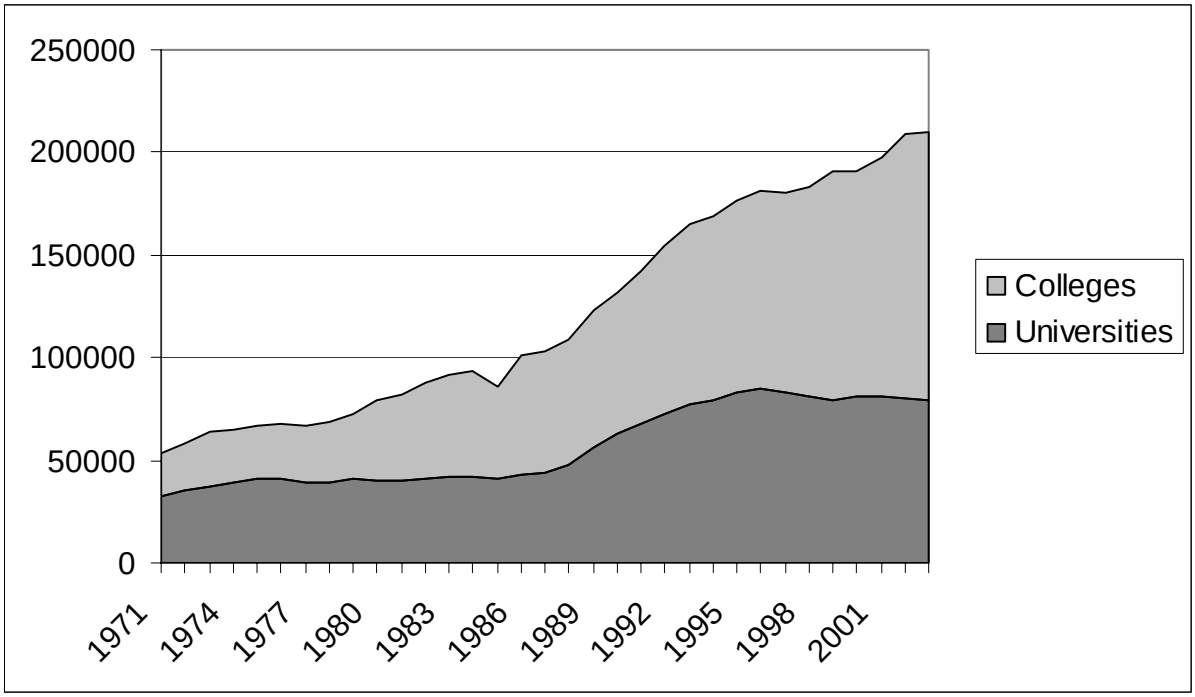
84. Table 2.2 shows the number of completed degrees at lower and higher level. These are the pre-reform degrees, before the introduction of the bachelor's and master's degrees from 2003. Lower level includes both the lower 4 years degrees at the universities as well as the professional programmes at the university colleges. In annex (Table 2.6) you will find the number of registered students at all the higher education institutions by category and level of study (Autumn 2004).

2.8 Overall size of the higher education sector

85. In this section, selected key figures on the size of the Norwegian higher education system are presented, both to illustrate the long-term quantitative growth and a closer look at the development during the last decade.

86. In figure 2.2. "Universities" include the four pre-2005 universities as well as the specialized university institutions. No distinction is made between public and private.

Figure 2.2: Students 1971 - 2003



87. Like in all other OECD countries, expansion in higher education in Norway has been very strong since the late 1950s. The university sector has had two distinct growth phases: between 1960 and 1975, and from 1987 to 1995. The relative increase was strongest in the first period, when university enrolment quadrupled, while the enrolment doubled between 1987 and 1995. Between 1975 and 1987, the number of university students was stable, while the university college sector doubled in size. Between 1987 and 1995, both sectors had strong expansion.

88. After 1995, the universities again stabilised, while the university college sector continued to grow, reflecting national policy priorities, as well as student preferences their responses to labour market demands. Until recently, there has been a lack of manpower in most of the professions trained in the university college sector: teachers, paramedics and social workers. From 2003, there have been some interesting changes in the direction of more applicants to the universities, while some study programmes at university colleges have had problems recruiting enough students.

Table 2.3 Students by gender and institution in 1993 and 2003

	Total		Females		Males	
	1993	**2003**	**1993**	**2003**	**1993**	**2003**
Total	172 574	209 770	93 449	125 673	79 125	84 097
University sector	77 252	78 753	40 462	43 427	36 790	35 326
University of Oslo	34 628	29 230	19 753	17 442	14 875	11 788
University of Bergen	15 537	17 110	8 545	9 943	6 992	7 167
Norwegian University of Science and Technology	15 522	19 404	6 542	9 140	8 980	10 264
University of Tromsø	6 276	5 508	3 395	3 188	2 881	2 320
Specialized university institutions*	5 289	7 501	2 227	3 714	3 062	3 787
University Colleges	67 362	98 315	40 398	63 955	26 964	34 360
Other colleges	6 362	2 272	2 784	866	3 578	1 406
Private institutions**	21 598	30 430	9 805	17 425	11 793	13 005

Source: Statistics Norway

Present terms for institution and institutional category
*Including National Academy of the Arts, **Including the Norwegian Lutheran School for Theology

89. The figures in table 2.3 are headcount. The number of full-time equivalents is lower, but not easy to estimate. In addition to the approximately 210 000 students enrolled in Norwegian institutions in 2003, there are at the moment about 22 000 Norwegian students abroad, some on exchanges, but the majority taking their whole degree abroad (see chapter 10). The stagnating enrolment in the university sector between 1993 and 2003 is mainly due to a drop in enrolment at the University of Oslo, while the other institutions, with the exception of the University of Tromsø, have expanded. The category "other colleges" is not exactly comparable over time due to a change in the institutional landscape.

90. Compared to most other countries, Norway has a relatively low proportion of its students in universities, only 38 per cent. Private institutions enrolled 14,5 per cent of all students in 2003, a slightly higher proportion than in 1993. Most of the private institutions are small, but the BI Norwegian School of Management is an exception enrolling more than 20 000 students. Most of them are enrolled in decentralised short courses (often part-time), but the institution also offers programmes at the ph.d level.

91. The proportion of female students is high, 60 per cent. Female students are most strongly represented in the university colleges, 65 per cent, which predominantly offer 3-year professional programmes.

Table 2.4 Students by type of institution and age. 2003. In per cent.

Age	Total	University sector	University colleges	Other colleges*
- 19	3.5	4.2	3.2	2.9
20 – 21	16.3	17.6	15.7	14.8
22 – 24	24.8	27.2	22.9	24.8
25 – 29	21.9	28.2	18.1	17.9
30 – 34	10.7	9.3	11.5	11.8
35 -	22.7	13.5	28.6	27.8

Source: Statistics Norway

*Including National Academies of the Arts and private higher education institutions.

92. The Norwegian student population is relatively "old". There are very few students younger than 20, and only one in five is younger than 22. More than one in five students are aged 30 or above. The universities have a much lower proportion of students aged 30 or above, and a higher concentration of students aged 22 to 29.

93. The age structure is caused by a general tendency of late entry into higher education. Relatively few start their studies straight after they have left upper secondary education at the age of 19. At the universities, the age distribution has traditionally reflected long study programmes, and a high proportion of students being delayed or having had interruptions in their study progression. In the college sector, there has been a strong influx of mature students in recent years due to the Competence Reform. This reform has, inter alia, opened up access for students aged 25 and above, based on individual assessment of a combination of formal, informal and non-formal competencies for the study programme applied for. So far, this has been most frequent within female-dominated professional programmes and de-centralised studies.

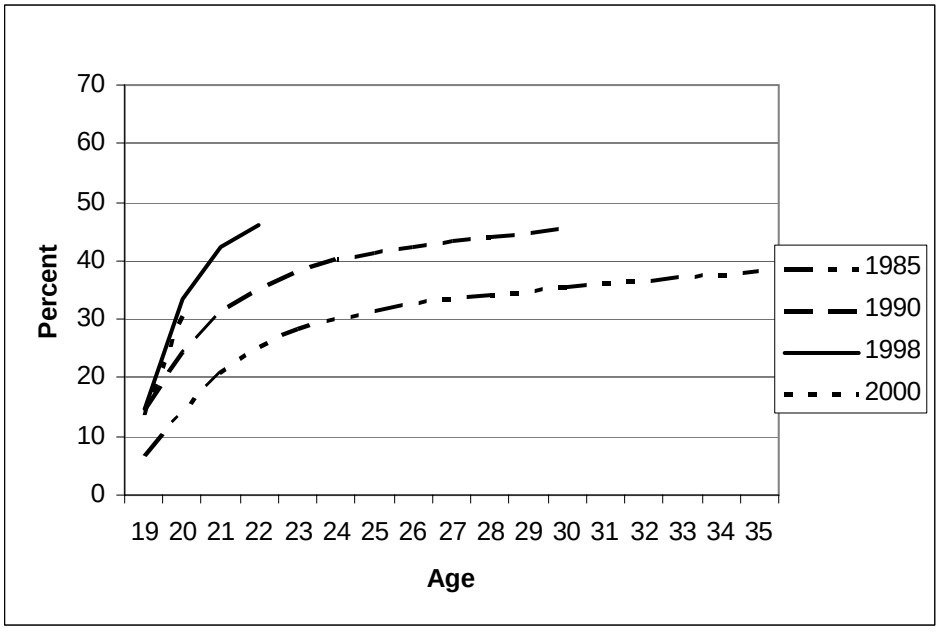
Table 2.5 Students at ISCED levels 5 and 6 as percentage of the respective age groups[14].

Age	1992	2002
19	13.1	13.6
20	20.8	28.0
21	24.5	33.8
22	24.3	34.4
23	22.9	31.3
24	19.2	27.6
25	15.4	23.0
26	12,4	18.8
27	9.9	15.5
28	7.9	12.7

Source: Equity in Education. Country Analytical Report, Norway

94. The participation rates by age show the same tendency as the absolute figures, and indicate that the increase in enrolment is due to a strong increase in the participation rates of all age groups, with the exception of the 19 year olds. Still, the participation rate in any age group at any given time is never more than just above one third, which is not high compared to many other countries. The enrolment rates in the group aged 21 and below is particularly low. The real proportion of the age cohorts attending higher education is higher, however, and at the age of 30, 36 per cent have entered higher education. Another way of showing participation rates is to calculate the cumulative percentage of each age cohort that enter higher education.

Figure 2.3 Cumulative enrolment in higher education in per cent of the cohorts aged 19 in 1985, 1990, 1998 and 2000.



Source: Statistics Norway

95. Two important topics are illustrated in Figure 2.3: Firstly, transition into higher education takes place over a long period. The percentage having entered higher

[14] ISCED level 5 and 6 is the UNESCO classification for the first and second stage of tertiary education.

education is low directly after leaving upper secondary education at the age of 19, then increases rapidly until the age of 22, and continues increasing after that age. New students are added even until the age of 35, which is as long we can follow the oldest cohort. Secondly, the figure shows that the overall participation rate increases significantly from the oldest to the youngest cohort. At the age of 22, 25 per cent of the oldest cohort, i.e. those aged 19 in 1985, have entered higher education. At the same age, the share of enrolment for the cohort aged 19 in 1990 had increased to 35 per cent. For the youngest cohort we could follow until that age, aged 19 in 1998, the percentage was 46. The youngest cohort, aged 19 in 2000, can only be observed until the age of 20, but it seems that they almost exactly follow the tendency of the 1998 cohort.

2.8.1 Goals and targets for growth

96. In the present policy on higher education, no explicit numerical targets have been formulated. Since the late 1990s, the principle for regulating the capacity in higher education in Norway is that the present number of study places should be sufficient to cover individual demand. At the same time, it is emphasised that it is important to keep “a high number of students”.

Chapter 3 Higher education and the labour market

3.1 Introduction

97. This chapter identifies the links between higher education and the labour market and policies to improve these links. The main points described in the following are that labour market demands only to a modest degree have determined the capacity of higher education (exceptions being paramedical studies, teacher and engineering education). Rather, student demand for higher education is the strong determinant. The expansion of higher education throughout the 1990s kept unemployment down during this decade, though with some mismatch in certain disciplines, e.g. within the humanities and social sciences. In areas with a stricter capacity regulation, the labour market has been fairly good, despite some shortage within health and social work.

98. In general in this period, unemployment has risen also for those with a higher education background decade even though unemployment overall is below the OECD average (see chapter 1) and lower than for those without higher education. The strong increase in the percentage of the population with higher education during the last 10 years has not had a negative impact on the differences in earnings for people at different levels of educational attainment.

3.1.1 Data sources

99. Several sources might to some extent shed light on the relationship between higher education and the labour market. However, only a few collect data routinely and at a national level. At a relatively aggregated level, the Labour Force Survey (LFS, carried out monthly but published quarterly by Statistics Norway) gives information about the trends in employment and unemployment for people at different levels of educational attainment. The survey is well suited for describing the over all trends in the labour market for the different levels of educational attainment, but not for specific fields of study or for describing the labour market for those in transition from higher education to work. Concerning the latter, NIFU's Graduate survey is well suited. This survey is carried out half a year after graduation at least every two years and covers higher degree graduates (more than 4 years of higher education) in addition to some lower degree graduates. The main purpose of the survey is to see to what extent the graduates are in relevant employment, are unemployed or engaged in further education. The Ministry of Education and Research funds it and is the main user of this survey. Data from NIFU's Graduate survey will be the main source for describing the labour market for graduates in the last 10-year period. However, since the fluctuations in the labour market for graduates to a great extent are influenced by the fluctuations in the labour market as a whole, we will start with a general description of the labour market in this period based on LFS.

3.2 The labour market in the 1990's and the beginning of 2000's

100. Figure 3.1 (see annex) shows the trend in the overall unemployment rate in the period 1991 to 2003 for persons at different levels of educational attainment. In the period 1991 to1993 there was an increase in the unemployment rate for all educational groups due to an economic slump that started in the late 1980's. From 1996 to 1999, the labour market improved and the unemployment rates dropped among all educational groups. However, the decrease in unemployment rate among

those with higher education was less pronounced than among those with education at the upper secondary level. From 1999 to 2003, the labour market deteriorated and there was an increase in the unemployment rate (the percentage of the labour force) and a decline in the employment rate (the percentage of employment in the whole population) (figure 3.2 in annex) at all educational levels.

101. Graduates with a higher degree have experienced much stronger fluctuations in the labour market than persons with higher education in general. Figure 3.3 (in annex), based on NIFU's Graduate survey, shows the number of *higher degree graduates* (more than 4 years of higher education) and the tendency to be mismatched (either unemployed, in irrelevant employment or in involuntary part time work) in the labour market in the period 1991 to 2003. The figure shows that the number of higher degree graduates increased substantially in the period 1991-1995. From 1997 to 2003 the numbers have been almost unaltered. This means that the growth in the number of graduates took place in a period with an over all difficult labour market. The growth in the number of graduates at the beginning of the 1990's might partly be explained by an increase in the size of the youth-cohorts and partly by the fact that the difficult labour market induced young people to study as an alternative to unemployment. The government consciously expanded the capacity in higher education to meet the demand for education and provide an alternative to unemployment. The growth in the number of students is illustrated in figure 3.4 (see annex). The increasing number of graduates entering the labour market in the first half of the 1990's experienced a more difficult labour market. The unemployment rate increased, as well as the percentage in irrelevant employment. In 1991, the percentage mismatched 6 months after graduation was 13; by 1995 it had grown to 21. Higher education is also considered as an important tool for facilitating the adaptation to changes in the labour market. Since 1995, the number of higher degree graduates has stabilised, but the labour market for graduates has varied. During the economic boom from the middle to the end of the 1990's, the labour market for graduates improved somewhat (the percentage mismatched dropped to 17). The recession from the end of the 1990's to 2003, had a great negative impact on the graduates' chances of getting a relevant full-time job. By 2003, as many as 28 per cent of higher degree graduates experienced a labour market mismatch. One should bear in mind, however, that the number of graduates had increased considerably since the early 1990s.

3.3 Labour market variations according to field of study

102. Most of the expansion in higher education in the beginning of the 90's took place in fields such as humanities, social science, to some extent natural science and technical subjects and law that traditionally were offered at the universities (cf. table 3.1 in annex). A rapid expansion of the capacity within fields of study as nursing, social work etc., where in fact a shortage of personnel was noticeable, was more difficult, mainly because it takes time to arrange internships and in-service training. However, the capacity in these studies, too, has gradually been extended during the 1990's.

103. The strong expansion of the capacity in higher education during the first half of the 1990's, seems to have had persistent impact on the labour market situation for some groups of graduates. The percentage of higher degree graduates in the humanities and the social sciences who were mismatched was higher in the whole period 1993-2003 than in 1991. Both groups have had a strong growth in the number of graduates in the period. Graduates in the humanities have to a greater extent than social science graduates experienced job mismatch, but have to a lower extent been

unemployed. For graduates in law and in natural science the situation has varied a lot during the period, with peaks in the percentage of mismatched in 1995 and 2003. Graduates in paramedical and social work studies experienced a favourable labour market for a long time, the reason being a persisting shortage of people with such qualifications on the labour market. Thus, the labour market varies a lot according to field of study. Some educational groups are very exposed to variations in the business cycle, like for instance graduates in technical subjects and engineering. During an economic boom they often experience high demand for their qualifications, and there might be a shortage of graduates, while in a recession there might be an oversupply of graduates. An example of this is graduates in information and communication technologies (ICT). During the recession in the period from the late 1980's to the first half of the 1990's, graduates in ICT experienced a very bad labour market. This was noticed by the youth, who lost interest in taking education in this field. When the labour market improved in the middle of the 1990's and the millennium problems were acknowledged, the demand for graduates in ICT increased substantially. Students were even hired before graduation and received very high wages. The capacity in ICT studies were then expanded during the second half of the 1990's to meet the great demand. However, the labour market changed after 2000, and in 2003 the percentage of mismatched ICT graduates was 36. This shows that it is very difficult to have a proper capacity in some fields of study. For some educational groups, like paramedics and social workers, there have, as already mentioned, been small fluctuations in the labour market. Access to these study programmes has been strictly regulated by the government.

3.4 What determines the capacity in higher education?

104. The capacity in higher education is determined through balancing student demands with the need for qualified labour in certain areas of society (health, education, etc.), and the costs associated with a given study programme. Amongst other objectives are the contributions to gender equity and to regional development (St. meld. nr. 27 2000-2001). With some exception, the total capacity in higher education has, as indicated above, to a great extent been determined by the demand for higher education. This has caused a substantial growth in the number of students in higher education during the last 10-15 years. One reason for accepting such a big expansion is that higher education is considered to be an important tool for meeting the challenges in the knowledge society and to promote economic growth. Almost everyone qualified for higher education has been admitted, but not necessarily within the study programme or institution most highly preferred. The demand from the labour market has not played an important role when deciding the capacity in many fields of study in higher education. A reason for this is that experiences have shown that it is difficult to predict the future labour demand and hence to adjust the capacity to future demand. However, for some fields of study, the capacity has been strongly regulated (for medical and paramedical studies, teacher education, etc.). The reason for the regulation of these fields of study is partly that shortages might be costly for society a and/or that the study programme in itself is expensive. Although Statistics Norway and to some extent NIFU STEP do labour market forecasts for different educational groups regularly, there has, as mentioned above, been a more or less constant shortage of some groups. The reason for these shortages is partly that the demand has increased more than expected and partly that it takes time to extend the capacity when needed. Until 2003, it was the Ministry of Education and Research that had the dominating role concerning the capacity in higher education. From 2003, the responsibility for the capacity in most subject fields has been transferred to the higher

education institutions themselves (with some notable exceptions due to costs and society's needs), the reason being that it will make it easier to adjust to changes in demand. It is argued that if applications to higher education are based on expectations about the future labour market, a stronger weight on demand as the basis for capacity regulation in higher education will give a good adaptation to the needs of the labour market. However, the Ministry of Education and Research is still responsible for estimating future needs and demands for the different types of educational qualifications in the labour market.

3.5 Adjustment mechanisms in the labour market

105. The labour market itself has several adjustment mechanisms to shortages or over-supply. We have already to some extent addressed mismatch (unemployment, involuntary part time and irrelevant employment) in the labour market (cf. figure 3.3 and table 3.1 in annex). Another mechanism that has not yet been mentioned is wages - a mechanism that traditionally has not been much used in Norway. To what degree the different adjustment mechanisms are active in case of a shortage or over-supply, differs between different educational groups, depending on what parts of the labour market in which they are primarily operating. Those graduating from fields of study that are vulnerable to changes in the business cycle, like graduates in natural science and technology, and to an increasing degree also law graduates, experienced bigger differences in the percentages of mismatched than graduates from other fields of study. The fluctuations are primarily caused by variation in the unemployment rate.

106. The percentage in involuntary part-time work does not play an important role for these graduates, while the percentage in irrelevant employment has varied somewhat but irrelevant employment is still of less importance than unemployment. Many of the graduates in the above mentioned fields of study work in the private sector, where wages are much more flexible than in the public sector. In addition to a substantial increase in the unemployment rate for these fields of study from 2001 to 2003, the recession also caused the wages to remain almost unaltered in the period despite a general wage growth of almost 10 per cent in society as a whole (cf. table 3.2 in annex). Graduates in ICT, who experienced a severe deterioration in their labour market opportunities from 2001 to 2003, had an increase in unemployment from 4 to 18 per cent and a wage decrease of 8.5 per cent. For graduates in the humanities and the social sciences, the labour market functioned differently. Particularly graduates in the humanities are less exposed to unemployment, and to greater extent to involuntary part-time and irrelevant employment than graduates in natural sciences, technology and law. The majority of the graduates in the humanities and the social sciences are employed in the public sector where the wages are regulated. Despite of a percentage of mismatched of about the same size as for graduates in natural sciences and technology, they experienced wage growths of 11 (humanities) and 5 per cent (social sciences), respectively. Graduates in health, welfare and sports, where access to education has been strictly regulated, have had a very good labour market for most of the period. Despite an increase in the percentage in involuntary part-time from 2001 to 2003, the wages increased by 7 per cent.

3.6 The influence of higher education institutions on the labour market

107. What influence HEIs have on graduates' labour market outcomes has until recently not been an important issue in Norway, but interest is now growing. Contrary to many other countries, particularly in the English-speaking world, there is no official ranking of the institutions. Graduates with the same education but from different institutions are normally supposed – and considered – to have the same chances of getting a job. To the extent that the issue has been addressed in research, a general result seems to be that when we look at university graduates with a higher degree there is a tendency that those graduating from the university of Bergen and NTNU have higher probability of being unemployed than those graduating from the universities in Oslo and Tromsø (Arnesen 1997, Arnesen and Try 2001). This result applies after correcting for background variables (gender, age etc.), differences in grades and previous work experience. However, the results differ somewhat between different educational groups. Differences in study programmes offered at the different universities could be one explanation to the differences. Of course, differences in the local labour market could be another. Also among graduate engineers there are differences in labour market adjustment between graduates from different institutions (Arnesen and Try 2001).

3.7 Higher education compared to other levels of education

108. As already mentioned, the number of people with higher education increased a lot in the reference period for the report: in 1993, 17 per cent of the population aged 16 or above had higher education, by 2003, the percentage had increased to 23 (cf. figure 3.5 in annex). The number of people with upper secondary education also increased in the period, but less than for higher education. In 1993, 51 per cent of the population aged 16 or above had upper secondary education as their highest educational attainment. By 2003, the percentage was 55. The percentage with compulsory school as their highest level of educational attainment dropped in the same period, from 30 per cent in 1993 to 20 per cent in 2003.

109. The strong increase in the percentage of the population with higher duration during the last 10 years has not had a negative impact on the differences in earnings for people at different levels of educational attainment. On the contrary, data from Statistics Norway indicate that the differences in earnings have increased slightly in the period 1997-2002 (cf. table 3.3 in annex). Those at the highest level of education have had the strongest earning growth while those at lowest level have had the poorest. This result deviates to some degree from research that shows that differences in income and the returns to education in Norway have been almost unaltered during the period 1987-1997 (Barth and Røed 1999, Hægeland, Klette and Salvanes 1999, Hægeland 2002). Schøne (2004), however, found a tendency to increased differences in income from 2001 to 2002. In many other OECD countries, there has been an increase in the differences in income due to education in the 1980's and 1990's. One reason for the absence of such increase in differences in income in Norway in this period, might be the stronger growth in higher education in Norway compared to other western countries. Another is that there has been a broad political agreement to ensure wage increases for those with the lowest wages.

3.8 Priorities in national policy

110. Even if the Ministry of Education and Research is still responsible for having an overview of the future need or demand for different types of educational qualifications in the labour market, the responsibility for the capacity in most fields of study has been transferred to the institutions as a consequence of the Quality Reform. One reason for giving the institutions the responsibility of the capacity is that it should be easier to respond quickly to changes in the number of applicants.

111. The ties between higher education institutions and the labour market differ a lot between fields of study. In some fields of study that have their main labour market in the private sector, like business administration and engineering, there has for a long time been cooperation between the higher education institutions and employers. This applies as well to some of the vocationally oriented studies (health and social work) with primarily the public sector as their main labour market. For other fields of study, there are no ties at all. It differs a lot how strong these ties are and what impact signals from employers have on the higher education institution and the curriculum. In general, the higher education institutions are responsible for the curriculum.

112. Encouraged by the Ministry of Education and Research, many higher education institutions have a career service or centres to ease the transition from education to work. How developed the career service is, varies a lot between institutions. Most of the centres offer counselling in how to write an application and a CV, how to search in job-databases, etc. Some centres also function as a meeting place for graduates and employers. In general, during the last years, the higher education institutions have shown more interest in how the graduates from their institution actually fare in the labour market, and some institutions carry out their own graduate surveys, and have introduced more study programmes geared on professional life, emphasising e.g. entrepreneurship. There are few career services outside higher education institutions.

Chapter 4 The regional dimension in Norwegian higher education

4.1 Introduction

113. This chapter describes the regional role of higher education in Norway. As illustrated in the chapter, higher education policy has traditionally been closely related to the main policy objective of trying to preserve the spatial distribution pattern of the population. Hence, the establishment of HEIs in various regions throughout the country has been a central characteristic of higher education policy during the last three decades. Studies show that this policy was successful for the regional distribution of those attending higher education. Still, the main centres of the R&D activities are in the Oslo/Akershus and in the Trondheim (Sør-Trøndelag) regions.

114. At present, national policy is more oriented towards stimulating the role of HEIs in the economic development of the regions. Hence, three national agencies are currently administering various policy instruments targeted to promote regional collaboration between HEIs, industry and society (see also chapter 5). At the institutional level, present developments include closer cooperation both between HEIs located within the same region, and between HEIs and other regional partners. The competition along the geographical dimension seems to be increasing.

4.2 Public policy concerning the regional dimension – an overview

115. At present, the Norwegian Government works along four main strategies concerning regional development in general:

- Securing favourable and predictable conditions for business
- Promoting innovation in all parts of the country
- Supporting growth where growth and growth potential exist
- Decentralising power and means in order to facilitate local and regional solutions to local and regional challenges.

116. In Norway, local and regional development has traditionally been regarded as a policy objective in its own right – as it contributes to the preservation of the geographical/ spatial distribution pattern of the population ("bosettingsmønster"), which has been a core policy objective during most of the 20th Century.

117. However, attempts to establish regions as a separate policy level, with county level policy institutions ("fylkeskommune"), and regional centres, came as late as in the 1970s, combined with a regional democratically elected assembly, seen as a *large scale version* of the small scale Norwegian municipality. Hence, "regional policy", promoting regional autonomy (regionalization), is a relatively late development in Norway. Instead, "regional policy" is traditionally conceived as a central (state level) policy of *national geographical/spatial distribution,* called "district policy".

118. Accordingly, in almost all areas of Norwegian policy thinking and decision-making – including higher education policy, regional *distributional* impacts of central level policy is an important issue and often requires coordinated actions between various ministries, between ministries and counties and between counties and municipalities. Such coordination has always been seen as important, but also as a challenge in Norwegian regional policy, mostly due to a weakly developed policy

apparatus at the county level. The *Storting* has in general followed the regional distribution policy rather closely.

119. Following this, throughout the last 30 years, *national policies* have focused on enhancing the economic and cultural role of higher institutions in their respective regions. County level policy initiatives are increasingly more engaged in the shaping of regional innovation systems including the higher education institutions, which are perceived as key institutions for the economic, social and cultural development of regions.

4.3 Location of higher education and the regional dimension

120. Before the Second World War, *the* major institution of higher education in Norway was the University of Oslo. In addition, there were more specialized institutions with the National Institute of Technology (NTH) in Trondheim as the most important, plus teacher training colleges spread across the country. After World War II, three new universities were established in different parts of the country: In Bergen, Trondheim, and Tromsø. Concerning the University of Tromsø, the aim was to develop the northern part of Norway (often referred to as "Northern Norway"), which was seen as lagging behind and experiencing population and economic decline. Thus, this decision clearly had regional development as a main objective.

121. The *regional* role of higher education was also explicitly addressed in by the Ottosen commission, appointed by the government in 1965 to suggest further strengthening of higher education in Norway. The reports from the commission paved the way for the expansion in the number of HEIs in the regions, coordinated by regional councils for higher education. Hence, the majority of the HEIs established in the last thirty years have had regional policy objectives alongside educational ones. Local stakeholders, politicians and industrialists have also lobbied heavily for the establishment of such new HEIs. The rapidly increasing demand for higher education in the post-war period in addition led to strong growth in the capacity of the sector. Berglund (2004) has e.g. shown how the new HEIs mostly attracted students from within their regions, and that the "regional student market" is still very important for these HEIs.

122. These new establishments were also partly meant to reduce the pressure on the existing universities. However, throughout the 1980s, the many small regional HEIs led to demands for a better regional national coordination. This process culminated with the merger within the college sector, ideas of a "Network Norway" of higher education (see chapter 2), and a division of labour between universities/specialized university institutions on the one side and the new university colleges on the other. Studies have shown that as a means to creating "decentralised regional centres" with considerable positive impact on both public and private service sectors within the region (e.g. with respect to stimulating industry and business establishments, to increasing the level of competence within the region, and to creating a more flexible labour market), this policy was a success (Sæther et al 2000).

123. At present, national policy is more oriented towards stimulating the role of higher education institutions in the economic development of the regions, including culture oriented and other types of services (see chapter 5). In addition, the funding system rewards institutions that are able to attract students and keep them throughout the whole period of study. This in turn has, *inter alia*, triggered several institutional attempts to overcome competition by entering into even larger merger operations, either by attempting to launch new (network-based) universities, to merge existing

universities (and university colleges) with (other) university colleges, or through networks of university colleges offering joint degrees, etc.

124. Following the establishment, upgrading and growth of the regionally based HEIs, Norway also saw the emergence of *regionally based research foundations* throughout the 1980s. These foundations have a small core funding from the Ministry of Trade and Industry (in the past these foundations received their core funding from the Ministry of Education and Research), but are mostly engaged in project based research, with a variety of funding, partly from central research funds – partly from the counties or other regional and local actors. Some of these institutions have grown and evolved into competitors with the national level research institutions. However, there are major differences in regional R&D intensity: the Oslo/Akershus and Trondheim (Sør-Trøndelag) regions having most of the R&D spending over the last twenty years (Berglund 2004).

4.4 Policy tensions along the regional dimension

125. One tension within higher education up until the late 1990s is associated with the idea of a "Network Norway" (see chapter 2), the cause of the conflict being the national restrictions on regional ambitions to develop existing university colleges into universities. Following the Quality Reform, this tension is mostly solved through the establishment of NOKUT, and the general criterion that academic quality shall decide institutional status. However, following the Quality Reform, a central criterion for becoming a new university is also that two out of four required ph.d programmes should have "regional relevance and national significance". This requirement may prove challenging for HEIs to fulfil in their effort to obtain university status. Studies show, for example, that during the last thirty years the profiles of the study programmes offered in the various regions in Norway have become more similar to each other (Berglund 2004). To find areas with a unique "regional relevance" could thus prove rather difficult, even if some institutions have managed to establish niches of their own. The establishment of new universities may also create new tensions in the system linked to the distribution of resources for research. At present, there is no policy directed at limiting academic drift.

126. The Quality Reform did not introduce any particular incentive mechanism directly rewarding HEIs' efforts to build regional networks with firms and county administration. On the other hand, the enhanced autonomy of the HEIs, combined with increased competition between them seems to stimulate regional collaboration and consolidation not only between neighbouring institutions, but also between HEIs and publicly funded regional research centres (see Chapter 5). However, one result might be that competition between regions will increase in the future.

4.5 Policy initiatives to stimulate and promote regional collaboration

127. The Quality Reform has had clear implications for the regional collaboration patterns between higher education institutions, industry, government and civil society. Firstly, the reform stimulates the competition for students between HEIs. Thus, institutions have to improve quality and relevance in order to attract and keep their students, especially students in the regions. Provided that they succeed, this is intended to stimulate regional development through study programmes more tailored to regional needs (see also the description of the new funding system in chapter 7).

128. Secondly, following the Quality Reform, a new framework for regulating HEIs' external relations and externally-oriented activities has been established ("randsonevirksomhet"). This new framework provides HEIs with tools to be more proactive in external project acquisition, and to create revenue related to such activities. For example, some higher education institutions have established independent foundations for their external relations enabling them to improve the management and organization of externally oriented and financed projects.

129. Thirdly, the reform stimulates commercialization of ideas and results from research conducted by HEIs. In the future this may stimulate starts-ups and spin-offs in the vicinity of HEIs. It should also be mentioned that some HEIs have been involved in setting up science parks in their vicinity. Increased emphasis on commercialization combined with state funding has also led some institutions to set up technology transfer offices, which are expected to yield regional benefits (see also chapter 5). To further stimulate this development, four new regional commercialization funds will be set up in 2005.

130. Moreover, there are three main national agencies administering policy instruments targeted to promote regional collaboration between HEIs and industry: the Research Council of Norway (RCN), Innovation Norway (previously called the Norwegian Industrial and Regional Development Fund) and SIVA - the Industrial Development Corporation of Norway. All three agencies fund research and innovation programmes and activities which directly or indirectly stimulate regional collaboration.

131. Central initiatives with explicit regional orientation are (see also chapter 5):

- *FORNY*: Commercialisation of higher education sector's ideas and intellectual property rights (see point 5.7 for more information)

- *MOBI*: A part of this programme funds R&D projects involving university colleges and firms located in the same region (see point 5.7 for more information)

- *SIVA* is co-owner in more than 60 innovation centres in Norway, like science and research parks, knowledge parks, business gardens, as well as venture capital and seed financing institutions, and it functions as an exchange for sharing of industrial and innovative approaches. SIVA has invested about NOK 300 mill. (about 50 mill. USD) in these innovation centres. Those who participate are more than 1,000 stakeholders, including private investors, industrial corporations, HEIs and other important R&D institutions. This makes these centres important networking hubs for companies, investors and R&D environments.

- *VS 2010* stimulates companies to collaborate with researchers in organisational development and innovation processes, triggering internal-and network-based innovation potential in companies, especially on a regional level. This is emphasised through a focus on union/employer federation participation, and development coalition, both in network and regional partnerships.

- *ARENA* contributes to increased innovation and wealth creation through cooperation between business companies, knowledge providers and the public sector. The programme is intended for regional clusters based on a concentration of firms within a business sector and relevant R&D and other knowledge institutions, and where there is a potential for strengthening the interaction between these parties.

- *CENTRE OF EXPERTISE* (pilots): Increases regional and national competitiveness, through strengthening regional core competence. This is conducted by triggering formal collaboration in a triple-helix scope.

132. There was a re-organisation of the Research Council of Norway in 2003 (sea also point 5.7), which included the establishment of the regional office of RCN as a partner in the regional programme. This is expected to lead to better integration between HEIs and industrial and science parks in the regions. The potential of these regional level partnerships and programmes is to develop strategies – enhancing the strengths of the region, supporting the development of regional innovation systems, and promoting industrial development and innovation.

133. The reforms and instruments mentioned above are intended to stimulate the evolution of stronger and more pro-active regional HEIs. However, an important factor in the current situation is demographic changes, leading to decline in the number of young students in certain peripheral regions. The dynamics of the emerging responsiveness to "student market" signals may reverse this trend, but this remains to be seen.

Chapter 5 The role of higher education in research and innovation

5.1 Introduction

134. This chapter provides information on the role of higher education in research and innovation. Key points in the chapter are the division of labour between higher education and research centres/institutes in Norway (with the latter as a major actor in R&D/R&I), the steady share in overall resources and time spent on research by individual staff, and the strong policy interest in stimulating research and innovation further in recent years, especially in the fields of science and technology.

135. The chapter shows that at universities, time spent on research by the individual academic staff has been fairly stable during the last 20 years (with some disciplinary differences), and that the share of basic research of total R&D expenditure also has been rather constant in the same period. On the policy side, several policy initiatives have been taken to stimulate research and innovation. Examples include the launch of a strategy for stimulating education and research training in science and technology in 2002 (see point 5.5), the reorganisation of the Research Council of Norway (RCN) in 2003 (see point 5.7), and the development of a comprehensive policy for innovation launched in 2004 (see point 5.8). HEIs are currently active in developing technology transfer offices (or similar type of bodies), new courses and study programmes, and have shown increased interest in establishing new partnerships with industry and business as a response to the new policy.

5.2 A broad overview

136. Higher education institutions play a central role in the Norwegian research and innovation system. They contribute to the development of skills and formal qualifications, they educate researchers, and they conduct research and development activities, either in-house, or in collaboration with other universities, research centres/institutes and enterprises nationally and internationally.

137. The higher education sector and the research centre/institute sector are of equal size as far as R&D is concerned, with industry as the dominant sector (see annex figure 5.2). Most of the publicly funded R&D full-time employment (FTE) years within the humanities and medical disciplines are conducted in the higher education institutions, while most of the publicly funded R&D FTE-years in engineering, aqua-related sciences and agriculture are conducted in Norwegian research centres/institutes (see figure 5.3 in annex). R&D FTE-years in natural sciences are about equally shared between higher education institutions and public research institutes.

138. Since the end of the 1990s, Norwegian R&D and innovation policy has been focusing on the need to increase national investments in R&D; to enhance commercialisation of research results from higher education institutions; to improve the quality of research and higher education; to promote networking and integration between academia and the private sector nationally and internationally, and to stimulate interest in education and R&D in science and technology. This development is strongly influenced by international policy trends in general, and by trends within the OECD and the European Union in particular.

139. The increasing focus on the role of the higher education sector in society has led to substantial changes in the legislative basis regulating the internal organization of the sector (see below).

5.3 The teaching – research balance

140. In Norwegian universities, 59 per cent of the working hours are spent on teaching and research in 2000 (Smeby 2001)[15]. 30 per cent of the working hours within the higher education sector were spent on teaching, whereas 29 per cent were spent on research. Academic supervision of students accounts for 13 per cent of the total working hours, while administration represents 17 per cent. 11 per cent is spent on remaining work categories[16]. According to OECD guidelines in the Frascati manual, administration of research and research supervision should be included as part of R&D. Given the categories above, this would result in an average of about 40 per cent of working hours spent on R&D for academic staff in universities and in specialised universities.

141. Although there are no recent data on the balance of efforts between teaching and research in university colleges, data from the late 1990s indicate that the share of the working hours spent on research is much lower in the university colleges than at universities (respectively 20 versus 30 per cent). There is currently a policy debate in Norway about whether, and to what level, the research efforts in university colleges ought to increase, due to the impact this might have for the distribution of resources for research in Norwegian higher education.

142. For all university disciplines except engineering[17], there has been a decrease in the individual time spent on teaching from 1981 to 2000. Regarding supervision, the opposite pattern emerges: All disciplines, except engineering[18] have had a considerable increase in time spent on supervision from 1981 to 2000. The number of supervised students has increased from an average of 4 supervised students per academic staff member in 1981, to 6.4 supervised students per academic staff in 2000, which represents a 60% growth.

143. Regarding working hours spent on research, the pattern is more fragmented. In the period 1981-2001, the share of working hours spent on research in the humanities increased, while in the social sciences and the natural sciences, the working hours in research remained unchanged. On the other hand, the share of working hours spent on research in medicine and engineering[19] has decreased from 1981 to 2000.

144. There are significant differences in the distribution of work tasks between the various types of academic positions, although the variances are more or less as expected. Professors use the least time on teaching (27%), whereas assistant professors teach the most (34-40%). Regarding supervision and administration activities the opposite pattern emerges. Professors spend more time on administration and supervision than assistant professors. Distributed on gender, it seems that men and women spend almost the same amount of time on research (29% and 28%

[15] These numbers were stipulated prior to the implementation of the Quality Reform. This reform might have changed the picture (recent data do not exist).
[16] Remaining work categories comprise museum, effectuation and professional vocational exercise.
[17] There is no available figure for engineering from 1981, but there has been an increase in time spent on teaching from 29% in 1991 to 34% in 2000.
[18] There is no available figure for engineering from 1981, but there has been a decrease in time spent on supervision from 18% in 1991 to 15% in 2000.
[19] There is no available figure for engineering from 1981, but there has been a decrease in time spent on research from 29% in 1991 to 23% in 2000.

respectively), while women spend more time on teaching than men (33% and 29% respectively).

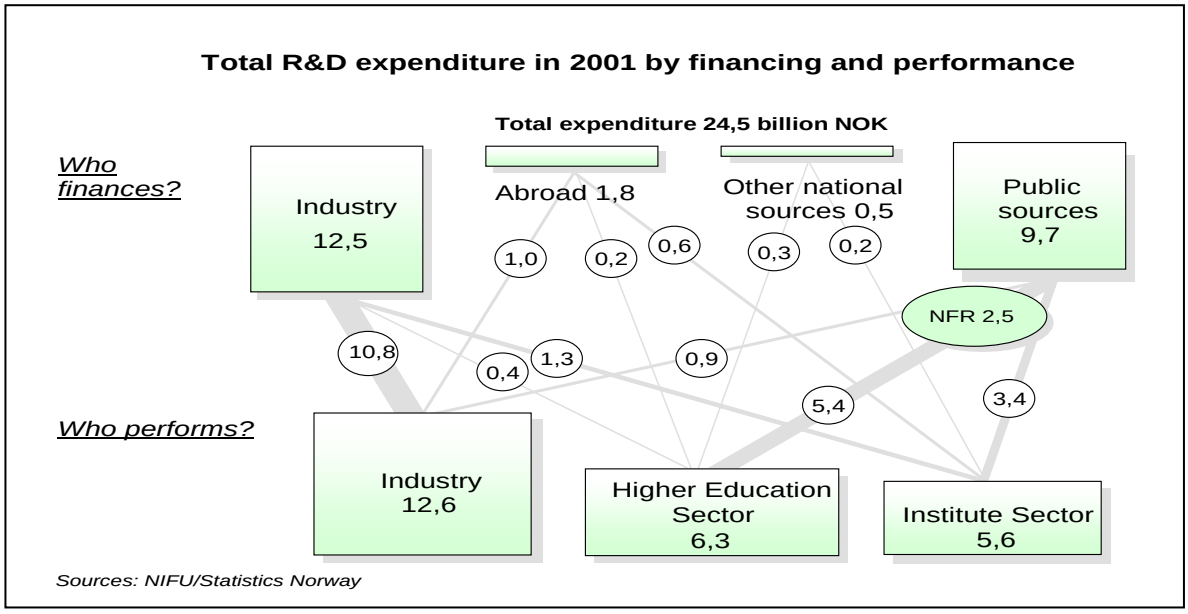
145. The Norwegian Association of Students has requested that the integration of students in innovation and research should be given higher priority as a consequence of the Quality Reform. Issues mentioned are the inclusion of students in research and innovation projects conducted by academic staff, and more emphasis on the acquisition of skills required for entering a labour market which is more focused on innovation and entrepreneurship (StL 2004).

5.4 Major sources of funds for research

146. The total expenditure on R&D performed by Norwegian higher education amounted to slightly over 6 billion NOK in 2003 (see figure 5.1 below, and figure 5.2 in annex).

147. The universities' proportion of total R&D expenditure in higher education was 77 per cent, while the specialized university institutions and the university colleges accounted for 12 and 11 per cent respectively (data for 2001). The share of R&D expenditure performed by university colleges is increasing rapidly (but from a rather low level), as a consequence of the legal amendment (2002) allowing institutions to build up research capacity and apply for accreditation of their own ph.d programmes. Consequently, the universities and specialized university institutions are no longer the only institutions performing R&D within higher education.

Figure 5.1 Canalisation of R&D funding in 2001 from source to performing sector. Billion NOK.



Sources: NIFU STEP/Statistics Norway.
NFR = The Research Council Norway

148. Total R&D expenditure at the four Norwegian universities increased from 1 billion NOK in 1981 to somewhat more than 4.8 billion NOK in 2001. In constant prices, this corresponds to a growth in R&D expenditure at the universities of about 100 per cent.

149. Social sciences and medicine experienced the largest growth over the twenty year period and the natural sciences the least. This has caused changes in the scale and distribution of science disciplines throughout the period. In 1981, R&D resources for the humanities, social sciences, and engineering and technology were about the same, whereas today the social sciences are by far the largest discipline of the three. Total expenditure on R&D was about the same for the natural and medical sciences in 1981, while medical sciences was the science field with the most R&D resources in 2001.

150. There are two main types of sources for R&D funding in the higher education sector; General University Funds (GUF) and funding from external sources. In 2001, GUF funding constituted about 62 per cent of total R&D expenditure within the higher education sector. For 2002 and 2003, returns on investments from the Research Fund contributed to a growth in GUF, as one third of the research fund profits was channelled directly into the higher education sector, and mainly to the universities.

151. External funding accounted for 38 per cent of total R&D expenditure within the higher education sector, an 11 per cent increase from 1999 in constant prices, while GUF funding remained unaltered from 1999 to 2001. The most important source for external R&D funding in 2001 was the Research Council of Norway, with about 1 billion NOK, or about 42 per cent of the external funding, and about 16 per cent of the overall funding. The funding from the Research Council increased by 22 per cent from 1999 to 2001 in constant prices.

152. The private sector is the second most important external funding source, and private funding increased by 14 per cent in the period 1999-2001 in constant prices, mainly due to a significant increase in funds from oil companies. Government and other national sources also constitute substantial funding sources for R&D conducted in the higher education sector.

153. Norwegian researchers in higher education also participate in EU research. The overall EU contribution to Norwegian participants in the 5th Framework programme amounted to 248 million Euro (NIFU STEP, Technopolis 2004). Though important strategically, EU funding is thus not a source of decisive importance for the Norwegian higher education sector.

154. The share of basic research of the total R&D expenditure in the Norwegian higher education sector has been rather steady from 1981 to 2001 (see figure 5.4 in annex). The universities have the main responsibility for ensuring the scope and quality of basic research in Norway. In 2001, basic research represented about half of the R&D conducted at the universities. R&D conducted at the specialized university institutions and the university colleges has a more applied character. For these institutions, basic research constituted about one third and one sixth of their research activities, respectively[20]. The variations in type of R&D activity between groups of institutions are partly due to differences in academic traditions. Basic research represents the largest share of research conducted in the humanities and the natural sciences, and the smallest share of research conducted in engineering, technology and agricultural sciences.

5.5 R&D in different fields – the challenge concerning natural sciences

155. Like several other OECD countries, Norway is facing a challenge in keeping up its R&D activity within the natural sciences (including mathematics and

[20] There are, however, substantial differences between the specialized university institutions concerning their R&D-activity and profile.

technology). The problem is multifaceted and includes, inter alia, problems relating to the recruitment to higher education, to the competence of teachers in primary and secondary education in science subjects, to the recruitment of academic staff in these fields, and to attracting women to study science and technology. All this is in turn affecting R&D-activities in these sciences. As a response to the recruitment challenge, the Ministry of Education and Research has developed a strategic plan to raise the status and level of activity in the natural sciences and in technology throughout the whole education system ("Realfag, naturligvis – strategi for styrking av realfagene 2002-2007"). The plan, launched in 2002 and later updated, identified several measures intended to improve the foundation for R&D conducted within these fields. Among the measures are:

- An increase by 1600in the number of new ph.d fellowships within the natural sciences and technology in the period 2003-2007, with the aim of 'producing' 1100 ph.ds annually in these fields. From 2004 onwards, institutions with good results in technology will receive a larger share of the new positions.
- An increase in the number of women recruited to science and technology studies
- Strengthening the teacher training in science, technology and innovation
- Creation of new national centres intended to stimulate interest in, dissemination of knowledge on, and R&D-cooperation in, the natural sciences.

156. The basis for these initiatives has been growing concerns about the status of science and technology among students, and, not least, the status of R&D in the sciences during the latter decade (see below).

5.5.1 R&D resources by scientific fields

157. In the period from 1995 to 2001, current R&D expenditure in total increased by 3 percent in fixed prices (see table 5.1 in annex). Still, there are some noticeable differences between the fields. Medicine, social sciences and natural sciences are the areas were most of the resources are found. The data also disclose that major changes have taken place in the period concerning the distribution of current R&D expenditure between the fields: While medicine, social sciences and technology have experienced an increase during the period of 4.2, 5.1, and 3.5 per cent respectively, natural sciences has experienced a decrease in current R&D expenditure of 0.8 per cent. Hence, the natural sciences' share of the current R&D expenditures also decreased from 26 to 21 per cent from 1995 to 2001 (see table 5.1 in annex). On this basis, there has been an increased political concern for the sustainability and growth of R&D within the natural sciences.

158. In general, the level of external funding varies between research fields. The agricultural sciences have the highest share of external funding, of about 50 per cent. This type of funding is also important in the natural sciences, engineering and technology. In medical sciences, funding from "other sources" is also important, the main sources being private charity foundations such as the Norwegian Cancer Society and the Norwegian Council of Cardiovascular Disease.

5.5.2 R&D workforce

159. The problem concerning the natural sciences can also be identified when looking at the R&D workforce in higher education (see table 5.2 in annex). In 2001, about 7 500 full time equivalent (FTE) R&D man-years were registered in the higher

education sector. In general this represents an increase of 8 per cent in total from 1995 to 2001. R&D performed by researchers / scientists also increased more than R&D performed by support staff (technicians / administrators) during the same period. The researchers / scientists represented 75 per cent of total R&D FTE in the higher education sector in 2001, showing little change from earlier years.

160. However, the distribution of the work force between the different fields shows clear variations over time. Table 5.2 (in annex) shows a 14 per cent decrease in the R&D workforce within the natural sciences from 1995 to 2001, while fields such as medicine and social sciences experienced a growth of almost 20 per cent in the same period.

161. Concerning tenure, the humanities have the highest percentage of tenured qualified academic staff while the medical sciences have the least. In engineering and technology, recruitment personnel has a higher share of FTE in R&D than any other staff category. Physicians and other hospital personnel at the university hospitals make an important contribution to the R&D performed in the medical sciences. There has been a trend for some years – in Norway as well as internationally – that R&D performed by support staff is decreasing compared to R&D performed by researchers. The agricultural sciences had the highest proportion of support staff in 2001, and also the highest percentage of externally funded researchers.

5.6 Policies and methods to stimulate research competition

162. The Research Council of Norway (RCN) is the most important external funding source for the higher education institutions. Higher education institutions compete with public research institutes for RCN's R&D programme funds in many different research areas (through publicly announced tenders). This is an arena in which competition and collaboration between higher education institutions and public research institutes often occur simultaneously. The Norwegian higher education sector also competes internally and externally through its participation in EU funded research (see also chapter 10).

163. R&D project acquisitions, funded by the private sector, and in particular by the oil companies, is another area where universities may compete with research institutes and with other knowledge intensive businesses.

164. Increased institutional autonomy after the Quality Reform seems to have stimulated a dynamic readjustment of alliances and collaboration patterns between higher education institutions and public research institutes. In addition, Norwegian HEIs are currently in the process of establishing more independent units and foundations that also might conduct commissioned research, and, thus, de facto become competitors to the public research institutes. The evidence so far, however, shows that there is a strong tendency for universities, colleges and institutes to build alliances instead of doubling the set of R&D-capabilities within regions. Yet, the competition *between* regions seems to increase.

165. There are huge institutional variations concerning how internally funded research is assessed in Norwegian higher education. While some institutions do not have systems for such assessment, others have implemented quite strict routines. Externally funded R&D programme research, however, undergoes strict ex ante evaluation at a project proposal level (peer reviews) and ex post through evaluation of the results and impact of R&D programmes regularly conducted under the auspices of the Research Council of Norway. The same is also true for the research conducted within the EU's Framework Programmes.

166. The Research Council of Norway organized and implemented ambitious and big scale evaluations of Norwegian research in all major scientific disciplines in the period 1994-2004. The evaluation teams invariably consisted of international professionals and scientists. Bibliometric methods have been applied together with more qualitative evaluation methods and peer review techniques. These evaluations revealed that several disciplines/fields of science held high standards (e.g. in mathematics, information science and chemistry), but also pointed to weaknesses in the Norwegian science base and in the higher education sector in particular[21].

167. There are some direct links between assessment of research quality and allocation of research funds to the higher education institutions. A recent establishment of Centres of Excellence at various HEIs was based on an assessment of research quality, and research projects funded through the Research Council of Norway always use external assessment as a decisive means for selecting projects for funding. (For a detailed description of the funding formula for Norwegian HEIs, see chapter 7. For a detailed description of institutional autonomy concerning resource distribution, see chapter 8).

5.7 Changes in research funding and organisation

168. The total expenditure in R&D performed in Norway amounted to 24.5 billion NOK in 2001, which constitutes 1.6 per cent of GDP. Though one should bear in mind that this percentage is far below the OECD average, it is noteworthy that R&D expenditures increased by 4.1 billion NOK from 1999 to 2001 (20 per cent increase).

169. The private sector funded 51 per cent of total R&D expenditures in Norway in 2001, public funding was close to 40 per cent, while sources from abroad and other domestic sources contributed 9 per cent. The share of R&D expenditures funded by the private sector increased during the 1990s, but was fairly stable from 2001 to 2003. The share of R&D expenditure performed by the higher education sector and private sector increased throughout the 1990s, and has continued to increase since then.

170. The Quality Reform has had consequences for the relations both between university colleges and universities, and between the higher education sector and other research institutions. In the wake of the 2002 amendments of the 1995 University and Colleges Act, some university colleges are applying for university status, and so far, one, in Stavanger, has succeeded.

171. Concerning organisational restructuring, the reorganisation of the Research Council of Norway (RCN) implemented in September 2003 represents a new orientation in research and innovation policy processes. This reorganisation established three new cross-sectoral departments within the RCN (the division for science, the division for strategic priorities and the division for innovation). The primary objectives for the reorganisation are to safeguard basic research and innovation directed research in a better way, and to improve the coordination across sectors and between basic and applied R&D. The new structure is also intended to improve communication between levels of hierarchy, and to simplify the management structure. An underlying rationale for the new structure is to make it easier to grasp new societal trends and competence needs.

[21] Brofoss (2004: 23-25) has summed up some of the evaluations, and found that general weaknesses could be found in how Norwegian research is organised and managed: the many small research groups, little cooperation between research groups, and a lack of younger academic staff to meet challenges related to retirements in the next decade.

5.8 Stimulating cooperation between higher education and industry

172. In Norway, close cooperation between higher education and industry is seen as vital for stimulating innovation and development in industry. Examples of the mutual benefits of such cooperation include increased utilisation of R&D in industry, the creation of new networks, and increased staff mobility between the sectors. Increased cooperation between higher education and industry can also stimulate more relevant research and education, and quicker adaptation of new knowledge in business and industry. Hence, in later years, an increased political emphasis on higher education – industry cooperation can be noticed.

173. In 2004 the Norwegian Government presented a plan for a comprehensive innovation policy. This plan is based on the need to create more knowledge-intensive industry and business, and to see the various policy sectors and areas in relation to each other. The argument is that innovation processes involve a wide range of private and public players and institutions within regional, national and international innovation systems, and that rapid knowledge and technology development within higher education is one of the basic foundations for innovation, for the ability to compete in a dynamic market, and for the national wealth creation. Stimulating cooperative research between higher education and industry is hence one of the central priorities within this plan, as well as the vision of the Government that the Norwegian education system should be among the best in the world.
To follow up the Government vision of creating more new start-ups with potential for growth, a separate strategy for entrepreneurship in education has also been launched. Central objectives in this strategy are:

- To create a comprehensive and integrated policy for entrepreneurship by stimulating cooperation between the public and the private sector
- To increase cooperation between higher education and business and industry
- To focus on entrepreneurship in regional development (see also chapter 4).
- To increase links across national borders, and to stimulate the creation of networks, partnerships and collaboration schemes in higher education.

174. There is a variety of measures and instruments launched to promote R&D cooperation between higher education and industry (see also chapter 4). The three main policy instruments are: MOBI Innovation Programme, FORNY, other user-oriented programmes and SkatteFUNN, all of which are administered by the Research Council of Norway.

175. The MOBI Innovation Programme - Mobilisation for R&D-related Innovation (2002 - 2009): MOBI is an ‘umbrella’ programme covering several smaller programmes. The main objectives are to encourage training, innovation and added value in companies with little experience in R&D, through co-operation with R&D teams in higher education or in public research institutes or other relevant public and private sector development agencies. The programme is of an experimental nature and is targeted towards stimulating regional innovation processes. MOBI’s target groups are companies with little experience of R&D and little R&D competence, irrespective of sector, industry or size. An important task for MOBI is to influence the ways in which academia work and disseminate results, as well as their culture of co-operation, so that companies will be capable of exploiting their sources of knowledge to a much

greater extent than hitherto. Staff mobility between the sectors through adjunct professor positions is one of the measures emphasised in this programme.

176. One of the programmes within the MOBI target area is the 'Industrial University College Programme'. This programme is targeted towards a closer interplay and mutual competence development between SMEs and the university colleges, and will contribute to improving the regional innovative capabilities in both the SMEs and the university colleges. MOBI's budget was recently significantly reduced due to changes in regional policy.

177. FORNY's target group is comprised by employees at higher education institutions who have good, but latent ideas for commercialisation projects. FORNY is designed to encourage students, researchers and research administrators to focus more attention on the potential for commercialization of research results. This initiative is targeted towards linkages between higher education and new start-ups or towards the creation and exploitation of immaterial property rights. RCN's user-oriented R&D programmes provide an incentive to universities to collaborate with the private sector. Companies have to finance a substantial share of R&D project expenditures.

178. SkatteFUNN is a tax credit measure introduced in 2002. Small and medium-sized firms (SMEs) are the primary recipient of this measure, with the right to claim 20 percent of their expenses on internal R&D-projects within a predetermined baseline of 4 million NOK each, or 8 million NOK if the R&D project involves collaboration with an approvable R&D institution. Hence, SkatteFUNN provides an incentive to collaborate with approved institutions in the higher education sector or with public research institutes.

179. In addition to these broad instruments, more targeted measures have been launched to create new partnerships and networks, and to stimulate staff mobility between the sectors. Some of these are:

- FRAM – a strategic leadership and management programme created to stimulate competitiveness and sustainability in SMEs. HEIs are intended to have a consultative and advisory role in this programme

- IVEL – a project intended to increase the ability of the enterprises to transform ideas into business within the ICT-sector. HEIs are intended to contribute with basic and applied knowledge in the process.

- Various study programmes and courses are also being developed either by HEIs themselves, or in cooperation with Innovation Norway or other partners. Some examples are the "Gründerschool" (Gründerskolen) and the "Academic Enterprise" (Akademikerbedrift). These programmes also address gender issues related to entrepreneurship.

5.9 Institutional responsibility for innovation and knowledge transfer

180. A key focus of Norwegian policy efforts to improve the role of higher education institutions in innovation has involved adjusting the legal framework for commercializing academic research results, and to enhance knowledge transfer in general. These legal changes have, amongst other things, led to the establishment of Technology Transfer Offices (TTO) at universities in recent years. The TTOs are meant to increase the knowledge diffusion between the higher education institutions

and industry. The overall aim is to transfer knowledge to society through the establishment of new business activities based upon research results produced by employees at the institution. Through systematic research based innovation such a unit will contribute to increased employment and competitiveness for Norwegian industry. Although the TTOs are at different levels of development and implementation across the six universities, they all possess four main functions:

1. to initiate and support work that may contribute to facilitate industrial research and development.
2. to be a competence centre for the universities and the research milieus as regards commercialization of research.
3. to manage Intellectual Property Rights at the universities.
4. to ensure and administer Intellectual Property Rights, and through this create a basis for the establishment of new business activities.

181. In 2002, the Research Council of Norway established a strategic programme for university colleges. This initiative constitutes around 120 million NOK for the period 2002-2006. This programme is meant to stimulate high quality research in university colleges, particularly related to their regional responsibility for innovation and knowledge transfer.

182. The Norwegian Government has recently launched four new national seed capital funds in order to nourish increased capital investments to all parts of the capital market. This market has been characterized by a weakly developed infrastructure for administrators of seed and venture capital. The new funds will be established close to existing universities (Oslo, Bergen, Trondheim and Stavanger), but will be open to invest in innovation projects in all parts of the country. The proposal implies that the funds will be financed on a 50/50 basis between public and private actors. The new funds are targeted at innovation projects, including projects at higher education institutions. Together with the recently established Technology Transfer Offices at the universities these funds will probably contribute to increased commercialisation of academic results. The long term goal for this initiative is to support the establishment of competitive companies.

5.9.1 Intellectual property rights

183. A key focus of Norwegian policy efforts to improve the role of higher education institutions in innovation has involved adjusting the legal framework for commercializing academic research results. Like in several other countries (Denmark, Germany, Austria, Japan, etc), Norwegian efforts have specifically centred on improving conditions by giving the HEIs a new role concerning intellectual property rights. However, efforts to promote the dissemination of results of academic research through commercial channels have a long history in Norway. The general tendency of these efforts has been to increase the rate and degree of exploitation of the science base in a way that improves the basis for economic growth without undermining the traditional values and role of academia. The underlying premise has been that the improvement of the interplay of academic research and market innovation processes can be mutually fruitful and reinforcing.

5.9.2 Changes in the legal framework

184. In 2002, legislation on higher education was amended, and in 2003, the employees' invention law was amended. The first involves a set of changes that effectively expands the societal responsibilities of higher education institutions as regards the promotion of practical applications of research methods and results,

especially in industry. This is intended to promote better dissemination of 'research methods and results to public administration, culture and *industry*.'[22]

185. This change is complemented by more instrumental legislation. The second change was an amendment of the employment law[23] governing control of employee inventions, from which academic researchers had hitherto explicitly been exempted. The measure removes the 'professor's privilege' from the legal corpus, thus placing responsibility for commercialization of academic research on the universities. The implementation of the regulation substantially changes the basis for commercializing academic research in Norway, enabling HEIs to keep revenue from commercial activities. One aspect of the Norwegian amendment is, however, that the researcher can reserve the right to publish *instead* of patenting in given conditions (as well as in addition to patenting).

186. Recent Norwegian policy is therefore largely aimed at encouraging higher education institutions to commercialize research results by granting them title to resulting patents. This is in turn seen as a step in the university responsibility to disseminate knowledge to society. The hope is that the changes will improve incentives to get relevant research results disclosed, protected, and disseminated.

[22] Proposition 40 to the Odelsting: Ot prp. Nr 40 (2001-2002): Article 2 no. 4. emphasis added
[23] Proposition No. 67 to the Odelsting (2001–2002). Amendment to increase the commercial exploitation of inventions. This amendment changes the 'professor's privilege' (lærerunntaket) of Act No. 21 of 17 April 1970 relating to the right to inventions made by employees.

Chapter 6 Equity in and through tertiary education

6.1 Introduction

187. The chapter identifies the policies through which the tertiary education system helps advance national equity objectives, as well as evidence on the links between the system and equity goals. The chapter starts with a description of the Norwegian student body in, and graduates from, tertiary education, including participation rates, completion rates and labour market outcomes. This is followed by a presentation of the main national equity objectives and the main policies on tertiary education developed to advance these objectives. The chapter ends with a discussion of the linkages between the system and the equity goals.

188. The main points in the chapter are that Norway has a highly educated population and a high participation rate in tertiary education, which may imply a high level of equity in education in general. Traditionally, the policy has been on developing universal arrangements and mainstreaming, rather than on need-based or targeted policies. This includes the system of student finance, through which all students enrolled in a tertiary study programme are entitled to financial support. There are no tuition fees in public tertiary education.

189. Equity in education concerns both the access to, and the opportunities provided in the education system, as well as the actual results and outcomes of different groups of students. Norwegian educational policy has traditionally emphasised equity of opportunity. This may be illustrated by the geographical expansion and decentralisation of higher education in Norway, which has been a successful policy measure for reducing geographic inequities in access to higher education (see also chapter 4). In addition, the policies on adults, on people with disabilities or special needs, and on people with immigrant backgrounds have all been focused on increasing participation in tertiary education. Recent policy changes implemented as part of the Quality Reform, however, may indicate an increasing focus on equity of outcome. The goal is to increase progression and graduation rates in tertiary education and to reduce drop-out by improving the follow-up of students

6.2 Issues related to equity in tertiary education in Norway

190. Equity in tertiary education may be defined as principles or policies to ensure fairness to people with impairments in providing them the opportunity to participate in and successfully complete studies in tertiary education. This includes possible different treatment in order to achieve equity in practice. Thus, equity in education is thus not only a question of access and opportunity to participate, it also concerns the actual results and outcomes for different groups of students in the education system.

191. Students can differ along several dimensions that may have an impact on their need for special measures or follow-up in the education system. If all where alike, equity in education would simply be a question of providing equal distribution of educational resources to all students. But because students are different both individually, and in terms of social, geographic and economic background, individual learning needs will vary. To what extent and how such differences may be reduced through educational policy measures are questions that researchers and policymakers are struggling to answer. Differences in personal or family background may affect the student’s perception of the educational system, and the need for information. Thus, in

addition to discussing *how* equity is defined and what it covers, we might discuss *when* equity in education should be measured. In general, inequities exist in all education systems and at all levels of education.

192. In tertiary education, students will as a rule have completed the prior levels of education in order to gain access[24]. In other words, when we study equity in tertiary education we study a selected group who have succeeded in the educational system. Those who have not succeeded and those who for various reasons have chosen not to continue to tertiary education are not included. This should be kept in mind to provide perspective in studies of equity in tertiary education.

193. Selection is important in all education systems. While the lower levels of education are compulsory in most OECD countries, access to the higher levels of the systems is normally restricted. Thus a smaller share of the population is attending tertiary education than those in primary and secondary education. However, the level of selectivity in the educational system varies between different countries. In Norway, the level of selectivity is low in secondary education. All youth who have completed ten years of compulsory education have a statutory right to upper secondary education and more than 90 per cent of the youth cohorts complete some form of upper secondary education, fully or partially.

6.3 Composition of the student body in Norway

194. In October 2003, there were approximately 210 000 students in higher education in Norway, of whom approximately 60 per cent women. 70 per cent of the men were aged between 19 and 24, while 63 per cent of the women were in this age group. About 26 per cent of the women and 18 per cent of the men were aged over 35.

195. Compared to other countries, Norway has a relatively large share of students studying abroad. In 2003, approximately 15 000 students were studying for a full degree abroad with financial support from the State Educational Loan Fund, and about 5 500 students received financial support to participate in exchanges or placements abroad (Ministry of Education and Research, 2003d).

196. In 2003, 7 500 students from the immigrant population were registered at Norwegian tertiary education institutions. This represents 3.6 per cent of the student population. The majority were first generation immigrants. However, the proportion of first generation immigrants in tertiary education is much lower than that for people born in Norway to immigrant parents. 27 per cent of all 19-24 year-olds born in Norway to immigrant parents were in tertiary education, compared to 18 per cent of first generation immigrants. The corresponding figure for all 19-24 year-olds in Norway irrespective of background was 29 per cent (Statistics Norway, 2004).

6.3.1 Participation rates

197. Entry to state tertiary education is regulated quantitatively and determined by the capacity of the individual institution. The minimum requirement for admission is successful completion of Norwegian upper secondary education with a minimum level of achievement in six basic subjects. Admission may also be gained with other qualifications recognised as being on par with the general matriculation standard. Some fields of study have additional entrance requirements (NOKUT, 2004). After the implementation of *the Competence Reform* (see below), admission can also be

[24] There are exceptions to these rules of access to tertiary education which will be described later in the chapter.

granted on the basis of individual assessment of the applicant's formal, non-formal and informal qualifications, for those aged 25 and above.

198. Table 6.1 in the data annex presents participation rates in higher education (ISCED 5 and 6) by population sub-group in 1992, 1997 and 2002. In 2002, 24 per cent of those aged 19-28 were enrolled in higher education. In the age group 19–24 the participation rate was 28 per cent. In comparison, the participation rate of those aged 19–28 in 1992 was 17 per cent. During the decade between 1992 and 2002 the participation rate thus increased in all age groups (see also chapter 2.8).

199. Table 6.1 shows that the participation rate differs according to the students' socio-economic background. Students with parents with a higher education qualification have a higher participation rate than students whose parents have no education beyond compulsory school. However, whether or not the differences have increased, decreased or stayed unchanged during this decade, may be a matter of discussion: Studies in the field have used different indicators to measure socio-economic background, and the results may therefore be ambiguous.

200. In 1992, the participation rates were 36 cent among students whose parents have higher education, and 6 per cent among students whose parents have no education beyond compulsory school. In 2002, the participation rates in the two groups had increased to 40 and 8 per cent respectively. The relative increase for students with parents having higher education was 11 per cent in the period, while students whose parents had no education beyond compulsory school showed a 33 per cent increase. The difference between the two groups was 30 percentage points in 1992 and 32 percentage points in 2002. Thus, the statistics show little indication that students whose parents have no education beyond compulsory school are "catching up" on the students with parents with higher education.

201. Turning to the student's geographical background, the statistics indicate a trend towards a balance between students in higher education from urban and rural districts during the past decade. This is mostly due to an opening of institutions in rural areas (see also chapter 4). In 1992 the participation rate among students living in urban districts was 20 per cent; twice as high as among students living in rural areas. In 2002 this difference was almost eliminated; the participation rate among students living in urban districts was 24 per cent, and 22 per cent among students living in rural areas. The increased participation rate among students from rural districts should be seen in relation to the geographical distribution of the higher education institutions. Reducing geographical inequities in access to education has been an important policy in Norway, and the statistics indicate that the decentralisation policy has been successful in reducing these differences. Decentralised and flexible provision has also contributed in this respect. These are study programmes offered by higher education institutions as distance education, or as off-campus provision, or through extensive use of ICT, or through a combination of two or all of these.

202. The gender differences in terms of participation in higher education have increased during the last 20 years. In 1982, the participation rates were 16 per cent for men and 18 per cent for women. In 2002, they were 20 per cent for men and 27 per cent for women. Some of the gender difference in participation may be explained by the fact that men enter military service shortly after completing upper secondary education. However, as the table covers the age cohorts19-28, the military service cannot be the sole explanation for these differences.

203. Compared to the majority population, the immigrants have a lower participation rate in tertiary education. This is particularly apparent among first generation immigrants. In 2002 the participation rate among the non-immigrant

population was 25 per cent; among first generation immigrants the rate was 11 per cent, and among the second generation immigrants (persons born in Norway with two foreign-born parents) the rate was 23 per cent.

6.3.2 Higher education attainment rates

204. Table 6.2 shows percentages of the age group 30–34 who have completed higher education, by population sub-group. The table shows an increase in the share with completed higher education from 1992 to 2002. In 1992, 24 per cent and in 2002, 35 per cent of all 30-34-year-olds had completed higher education. It is particularly between 1997 and 2002 that the main increase has taken place. During this period, the share of the population aged 30–34 with a higher education qualification increased by more than 7 percentage points.

205. Table 6.2 displays an obvious relation between educational attainment and socio-economic background. Among 30-34-year-olds whose parents have higher education average educational attainment is much higher than among their contemporaries whose parents have no education beyond compulsory school. Taking into account the social differences in participation in higher education displayed in table 6.1, the statistics are not surprising. In 2002, 66 per cent of the cohorts aged 30-34 had completed higher education whereas only 13 per cent of the same cohorts whose parents have no education beyond compulsory school had reached the same level of educational attainment. Although the rates vary slightly during the period, the table indicates relatively stable social differences in attainment levels.

206. The table also displays a clear difference in higher education attainment according to location. In 2002, 38 per cent of 30–34-year-olds living in urban areas, and 22 per cent of 30–34-year-olds living in rural areas had completed higher education. Differences in the labour market between urban and rural districts probably accounts for most of this difference; urban districts containing more jobs where higher education is required and thus attracting a higher proportion of the higher educated work force.

207. Higher education attainment in addition varies according to gender: In 1992, 25 per cent of all 30-34-year-old women had completed higher education, compared 22 per cent of the men in these cohorts. In 2002, this gap had increased from 3 to 9 percentage points for the corresponding cohorts; 30 per cent higher education attainment for men vs. 39 for women.

208. Significant differences in higher education attainment are also found between groups with and without immigrant backgrounds. Looking at the attainment levels at three points in time, a slightly unclear pattern is found among first generation immigrants. While the higher education attainment level was 22 per cent in 1992, the rate dropped to 13 per cent in 1997, and again increased to 20 per cent in 2002. This changing pattern should be related both to the composition of the arriving immigrants, and to the registration of educational background among arriving immigrants. During the past decade a large share of the immigrant population have arrived as refugees, many of whom with little formal education. In addition, the level of education among newly arrived immigrants is not always registered. In order to be registered with a higher education qualification from abroad, the education must be recognized and approved by the authorities, which may be a time consuming process. Both the composition of the immigrant populations as well as registrations routines should thus be taken into consideration when interpreting the educational attainment levels among the immigrant population. Generally speaking, the immigrant population originating from Western countries has a higher level of educational attainment than the

immigrant population from non-Western backgrounds. This must be seen in relation both to the reason for immigration (labour, asylum seekers, etc.), and to differences in educational opportunities in the immigrants' countries of origin. While immigrants from Western countries have well developed education systems in their country of origin, a high proportion of immigrants from non-Western countries arrive from countries without properly developed educational opportunities for all, and without a sufficient level of education to enter tertiary education in Norway.

6.3.3 Labour market outcomes

209. Table 6.3 is constructed using data from the Norwegian Labour Force Survey (LFS). Due to sample bias it is not possible to give any results on immigration status from this survey. The table shows labour market participation by type of higher education degree completed (ISCED 5A, 5b and 6), by population sub-group. In general, higher education graduates have high labour market participation (for instance higher than among those with upper secondary education as their highest educational level of attainment). The participation rate is around 90 per cent during the entire period. Comparing the groups from different socio-economic background could indicate slightly lower participation rate among those who have parents with higher education compared to those who have parents with no education beyond compulsory school. However, the differences are small and could be accidental. Men have a higher participation rate than women, but the gender gap is relatively small and has remained stable for the decade covered in the analysis. In 2002 the participation rate was 92 per cent for men and 87 per cent for women.

6.3.4 Accumulation of inequities throughout the lifecycle?

210. Studies indicate that social inequities in Norway are more difficult to identify in overall statistics on the lower levels of the educational system (due to e.g. statutory right to upper secondary education), but that they become more visible in statistics on higher education. A study of participation rates in higher education in 1997 among the cohort finishing compulsory education in 1989, found that while more than 80 per cent of those with parents with a long higher education had continued to tertiary education, the rate was only 17 per cent of those with parents with only compulsory education (7-9 years) (Jørgensen, 2000). Some of these differences were produced by students choosing different tracks in upper secondary education. Students from higher social backgrounds are overrepresented in the general (academic) tracks and students from low social background are overrepresented in the vocational tracks. But even among students who had completed a general track, preparing for tertiary education, the share continuing to tertiary education was 92 per cent among those with parents with a long higher education, and 67 per cent among those with parents with compulsory education.

6.4 National equity objectives

211. At least since World War II, Education for all has been an ambition and a goal in Norwegian education policy. For higher education, the main national equity objectives may be divided in two groups. Group 1 is policy focusing on increasing equity of opportunity by improving access to tertiary education, while group 2 concerns increasing equity of outcome, and thus focuses more on equity *in* tertiary education:

1) Increasing access to tertiary education among underrepresented groups. Special attention is directed to students with minority and immigrant

backgrounds, and to students with special needs. Attention is also directed towards increasing gender equity in student choice in tertiary education.
2) Improve progression and completion rates in tertiary education, especially among underrepresented groups.

6.4.1 Policies through which the higher education system helps to advance the national equity objectives

212. In the following sections existing educational policies are presented and discussed in relation to the national equity objectives. The policies presented includes recent policy changes in tertiary education; policy on geographical equity of access; the system of student finance; gender differences in student choice; policy on vocational rehabilitation; policies on increasing participation in tertiary education among adults, among people with disabilities, and among people with immigrant backgrounds.

6.4.2 Policy in higher education: Equity and efficiency

213. The Norwegian higher education system is recognized for its high level of flexibility; students have traditionally been allowed to combine different study programmes and to transfer quite easily between tertiary education institutions. The public educational system is developed as an open system with low entry barriers, no tuition fees and a high geographical distribution of institutions. Students only pay a fee to the student welfare organisation (*Studentsamskipnaden*) (Eurydice, 1999)[25]. Thus, equal opportunities of access to tertiary education have a longstanding tradition in educational policy.

214. On the other hand, it may be argued that the policy on progression and outcome of education have received less attention. Traditionally Norwegian students have slow progression through the educational system and many are delayed by one or two years (Markussen & Aamodt in Statistics Norway, 2003). Low graduation rates have most likely been the price to pay for a flexible system allowing temporary breaks or "stop-outs" and changes of study programmes. Hence, one of the main goals in *the Quality Reform*, implemented at all higher education institutions from the autumn term 2003[26], has been to increase graduation rates and progression in higher education and to reduce drop-out by introducing closer follow-up of individual students. This indicates a change in policy towards increased focus on equity in and though higher education, in other words on equity of outcome.

215. As part of the Quality Reform a new degree structure is implemented, as of autumn 2003, with a 3-year bachelor's degree followed by a two-year master's degree. The new degree structure may make the Norwegian higher education system more easily comparable internationally, but it may also contribute to increased efficiency in higher education due to the reduction in the length of study programmes and the required follow-up of students within the new study programmes, for instance through the individual education plans.

6.4.3 Policy on geographical equity of access

216. Geographic accessibility in higher education has been a political concern since the expansion of the sector in the 1960s and 1970s. The higher education institutions are distributed throughout all 19 counties. The decentralisation of tertiary education

[25] The fee to the student welfare organisations at the different tertiary education institutions varies slightly. In autumn 2004 the fee was approximately NOK 350-410 (about 43-49 euro).
[26] for all first-year students that is. The reform is described in chapter 2.5.

has contributed to establishing a large university college sector, providing a popular alternative to the universities. In 2003, 38 per cent of the students enrolled in tertiary education were enrolled in one of the (prior to 2005) four universities, while 47 per cent were enrolled in one of the public university colleges (Statistics Norway, 2004).

217. The political concern for a strong local and regional development of tertiary education has a double basis: one concerns the geographical access for students; the other, and even more important, is related to long-term habitation patterns, in that many choose to settle down in the area or region of the higher education institution from which they graduate (Eurydice, 2003).

218. Policy on geographic equity of access also concerns policy on access to higher education among national minorities and indigenous peoples.[27] The Sámi University College has a special responsibility for Sámi teacher education and for training in traditional Sámi crafts (duodji). The creation and existence of an entirely Sámi higher education institution was – and is – also an important measure for the development of Sámi as a language of science and learning. State support is provided for the development of textbooks written in the Sámi language.

6.4.4 Financial assistance to students

219. The State Educational Loan Fund (*Lånekassen*) was established in 1947 with the intention of improving the social recruitment to education. Today, all students enrolled in a recognized tertiary level study programme are entitled to financial aid, provided as grants and loans. Such support is also available for students in higher education abroad. Student support is provided as a mixture of loans and grants. The loans are interest free during the studies, and have to be repaid over a period of maximum 20 years after graduation. The loans and grants are intended to meet such expenses as housing, food and study materials. Around 90 per cent of all Norwegian students in tertiary education take up a loan to cover expenses while studying (Eurydice, 1999). In 2003, the State Educational Loan Fund distributed 5.7 billion NOK in grants and 9.3 billion NOK in loans (The State Educational Loan Fund, 2004) (see also point 7.9).

220. As part of the *Quality Reform* in higher education, the student support system went through a major restructuring in autumn 2002 (see point 7.9). The changes include an increase in the total amount of support, and the introduction of "progression dependent grants"; the basic grant is now obtained as a loan that is converted into a grant depending on student progression.

221. The question is to what extent this change may have an effect on inequity in and through tertiary education. On one side, the changes may be considered as an improvement of the student support system making it more affordable to pursue tertiary education. During the past three years there has been an increase of cost for the state both due to the increase in total amount of annual support, but also because of an increasing number of students receiving student support[28].

[27] National minorities in Norway include the Sámi who are an indigenous people, Jews, Kven (people of Finnish descent living in northern Norway), the Roma/gypsies, the Romani people/travellers and *Skogfinn* (people of Finnish descent living in southern Norway) (KRD, 2004). Since ethnic origin is not included in the national statistics, the knowledge of these peoples is scant and any statistical comparison between national minorities and majorities is limited.

[28] Between the academic year 2002-03 and 2003-04 the number of students in tertiary education receiving student support increased with almost 20 000.

6.4.5 Gender equity in higher education

222. Genuine gender equality is seen as an important goal for society as a whole as well as for education and research. Today participation in higher education is female dominated (see table 6.1). However, despite increased female participation in higher education, the gender differences in the choices of study programmes have remained mostly stable during the last decade. Both the Norwegian education system and the labour market are recognized by strong gender segregation. Women dominate in social and health-studies, in teaching, in the humanities and in social sciences, and there are few women studying natural sciences, mathematics and information technology (Støren & Arnesen in Statistics Norway, 2003). Positive measures have been taken in many higher education institutions in order to increase the proportion of women in science and technology (BDF, 1997). The female dominated education programmes have in general a lower rate of economic return to education compared to the traditional male dominated studies. Taken into account the differences in economic returns, increasing gender equity in the education system is one means of increasing economic equity between men and women in a lifecycle perspective by reducing the gender wage gap.

223. Still, the female participation rate is not equally high at all levels of higher education. When moving upwards in the academic system, the proportion of women decreases, a phenomenon known as attrition or "the leaky pipeline". At doctoral level, women are still underrepresented in many fields of study – except in the arts, in education and in nursing – even though participation levels are increasing in many fields.

224. The policy on gender equity in higher education is thus related to three issues: to reduce the gender segregation in higher education, and to increase female participation and completion rates at the master's and doctoral levels, and to increase the share of female professors. All higher education institutions are required to develop a strategy and formulate a plan of action on gender equality. (See table 6.4 on the percentage of women in academic staff.)

6.4.6 Policy on equity: Link between education and the labour market

225. A basic goal of ensuring economic wellbeing and integration in the Norwegian society for all citizens is embedded in a general policy of lifelong learning and in particular, in a policy of an all inclusive labour market (*inkluderende arbeidsliv*). Thus, central policies aimed at combating poverty and increasing integration in society of immigrants, groups at risk, and individuals with disabilities or particular needs, are designed to ensure participation in the labour market. Education and the labour market are closely linked. Education is often used as a means to re-integrate people who are unemployed or on social welfare into the labour market.

226. *The system of vocational rehabilitation* is among the strategies used in order to help people re-enter into the labour market through vocational training and education.[29] In 2003 the average number of places in vocational rehabilitation was about 77 600.[30] The qualification part of vocational rehabilitation covers a variety of measures from relatively short courses to higher education of up to three years. In the

[29] To enter a vocational rehabilitation scheme the applicant's ability to obtain employment income or possibility to choose occupation must be permanently reduced by at least 50 per cent due to illness, injury or defect. It is also a condition that vocational rehabilitation is considered necessary before the applicant can get and/or keep suitable work (ASD, 1997). The rules of the system are expressed in the National Insurance Act (*Folketrygdloven).*

[30] Aetat (Public Employment Service) Annual statistics 2003.

first quarter of 2004, approximately 28 000 places were in ordinary education (all levels).[31]

227. In order to reduce the costs and increase the targeting, the vocational rehabilitation policy has been altered during the past years. The changes include introducing limitations on the tuition fees covered by the vocational rehabilitation scheme (2003), a minimum age limit of 26 years in order to enter a vocational rehabilitation scheme (2004), and limitations on the maximum time in education covered by the vocational rehabilitation scheme (2004). The main rule is that the right to paid education is now limited to three years. To what extent the changes in the rules concerning vocational rehabilitation have increased the targeting of the policy has not yet been evaluated.

6.4.7 Policy on increasing adult participation in higher education

228. *The Competence Reform* was initiated in 1999 (St. meld. Nr. 42, 1997-1998), and is still in progress through various initiatives and projects. The aim of the reform is to contribute towards meeting the needs of society, of the workplace and of individuals for competences and skills. The Competence Reform may be regarded as an incentive programme for lifelong learning (Egge, 1999). A central feature of the Reform is the implementation of measures for documentation and assessing the combined formal, non-formal and informal qualifications of the individual adult, to be used as a basis for professional recognition and/or entry into further formal education. Non-formal learning may be acquired through work, experience of working in organisations or through other informal learning. Schemes have been developed that are valid both in the workplace and in the education system. This has been achieved through collaboration between the social partners, the education system, study associations and private providers of education (Ministry of Education and Research, 2003b). From 2001, adults have been able to enter tertiary education on the basis of individual assessment of formal, non-formal and informal qualifications (*realkompetanse*) for the study programme applied for. In 2002, the share of those applying for admission to higher education based on their documented formal, non-formal and informal learning was 7 per cent, and they constituted about 5 per cent of those admitted (Helland & Opheim, 2004).

6.4.8 Policy on increasing participation in tertiary education among people with disabilities

229. Access to tertiary education for disabled young people and adults is an area of great political interest. In the period 1991-2002, there have been three national government action plans for people with disabilities. These action plans have been run and monitored through close co-operation between relevant ministries, including the Ministry of Social Affairs, the Ministry of Labour and the Ministry of Education and Research. Within the framework of the action plan, the Ministry of Education and Research in 1998 required that all higher education institutions developed action plans at the institutional level, with a view to ensuring equal access for students with disabilities. An evaluation has showed that, in general, institutions have developed such plans, and that the requirement to produce such a plan has led to better awareness of the issue, but that the implementation is still far from complete (Båtevik 2003). Since 1998, the HEIs are required to report on the implementation of their action plans for the disabled in the annual budget reports to the Ministry, and the issue forms a regular part of the formal annual meetings between the ministry and the HEIs.

[31] Aetat monthly statistics, quarter 1 2004. The number of places in higher education is not registered.

230. In the White Paper "*Dismantling of Disabling Barriers*", St.meld. nr. 40 (2002-2003), the Government presents experiences and results from the national action plans as well as the strategies, objectives and measures in its policy relating to persons with a reduced functional ability. While measures and services implemented during the last decade has improved the situation among people with disabilities, the White Paper also points out areas where more effort is needed in order to reach the policy goals. This is especially related to increasing access to all parts of society.

231. Concerning higher education, the policy and measures expressed in the White Paper is to both increase participation in tertiary education, and improve the transition from higher education into the labour market for people with disabilities. Thus, the policy focuses on equity and integration in the education system as well as in the labour market.

6.4.9 Policy on increasing participation in higher education among people with immigrant backgrounds

232. There are great differences between minority language and majority language pupils and students throughout the education system, as regards school achievement, as well as participation and completion rates. These differences are mostly found in stages prior to tertiary education. Reducing these differences and increasing equity is a priority in the education policy, and some measures have been implemented (see below). The Ministry of Education and Research launched a strategic plan in 2003 in order to improve learning and participation by language minorities in all parts of the education system, including day care institutions, schools and higher education institutions (Ministry of Education and Research, 2003b).

233. One of the goals is to increase the percentage of minority language students, especially first generation immigrants, in higher education. The strategic plan presents measures to improve both recruitment to higher education, and completion rates, and to reduce drop-out in higher education (Ministry of Education and Research, 2003b). The focus is thus both on increasing equity in access as well as in outcome. The strategic plan is for the 5-year period 2004–2009 and will be evaluated.

234. Several higher education institutions have study programmes or courses specially adapted to people with immigrant background, or projects to facilitate their study situation. A national resource centre for multicultural education, situated at the University College of Oslo, was established in 2004 as a result of the above mentioned strategic plan. The national centre, and its predecessor, has been given financial support from the Ministry of Education and Research, and can give support to initiatives directed towards people with immigrant background at all levels of the educational system.

6.5 Linkages between higher education and equity goals

235. Compared to other OECD-countries, Norway has a highly educated population and a high participation rate in higher education (see table 6.1 in annex). Still, the participation rate is not equally high among all groups of students, and student choice varies between different groups of students. In the following sections we discuss the link between the system and equity goals.

236. Relating the geographic expansion and distribution of higher education with the participation rates among people from urban and rural areas, respectively, suggests that the policy of reducing geographic inequities in access to higher

education has succeeded. During the past decade the differences in participation rates has been reduced (Sæther et al 2000, Berglund 2004).

237. To what extent social inequities in higher education have been reduced in this period is less obvious. Studies on social inequality in higher education suggest that social inequality in recruitment to higher education has been reduced during the 1990s (Aamodt & Stølen in Statistics Norway, 2003; Hansen, 1999). However, the reduction has mainly taken place in the university college sector and in the shorter education programmes (2-4 years). In the university sector, where the long prestigious education programmes like medicine, law, etc. are found, social inequality has not declined (Hansen, 1999). However, when discussing social inequities in higher education, this should be related to how equity is defined and measured. In Norwegian education policy there has traditionally been an emphasis on equity of opportunity rather than of outcome. Most policies imply mainstreaming, even though different groups of students may have different needs. Through the Competence Reform, however, adults can be granted admission to higher education on the basis of a combination of formal, informal and non-formal qualifications. The Competence reform may thus have increased access from people who normally would not have qualified for access to higher education. However, this is a policy on equity of access which does not necessarily imply equity of outcome. There are no particular national policies or measures ensuring that this new group of students successfully complete studies in tertiary education, but many of the HEIs monitor the situation of these students quite carefully. On the whole they seem to do fairly well although some institutions report slightly higher failure rates for them than for the student group as whole.

238. There is also a dilemma between equity and finance. The education policy is not only focused on equity, but also on cost control and increased efficiency. The introduction of a system of student finance where the amount of grants depend on the students' timely completion of studies, may illustrate the efficiency policy in tertiary education.

Chapter 7 Resourcing higher education

7.1 Introduction

239. The chapter identifies the major issues in the staffing and financing of higher education, and describes major developments in policy and practice related to these issues. Concerning staffing, the chapter describes the common appointment structure for all public HEIs, and highlights the high percentage of professors in Norway as share of total staff. The chapter also presents the system for promotion to professor based upon competence, before discussing problems related to working conditions. Data show high stability in total time spent on research, but also concerns about increasing lack of uninterrupted time for research. The growing ageing within academic staff is then discussed. The problem has partly been related to the mean age of staff entering academic positions. The policy response to the problem is, amongst other things, to increase the number of ph.d and post-doctoral fellowships.

240. Turning to funding, the chapter describes the changes in the funding of higher education in the last decade, towards a more output based system, and the increase in institutional autonomy that has taken place simultaneously. Data show that during the latter decade external funding (outside the annual budget) of higher education has increased, even if the share of state funding is still relatively high. The target level for R&D funding in Norwegian higher education (OECD-average) has not been met, even if a considerable growth in government appropriations for research has been achieved the last 5 years.

7.2 Staffing of higher education[32]

241. Going back to the early 1990s, in the budget process, the Ministry of Education and Research made proposals for the university sector to the Parliament on the number of new positions in each subject field. If approved by Parliament, new positions were allotted to the institutions, which in turn employed qualified persons based on application and competitive procedures. An essential feature of this period was a relatively detailed involvement from the Ministry.

242. Since then the system has been changed. There has been an overall movement towards block grants (see next section) which also affects staffing. As a consequence of increased institutional autonomy (see chapter 8) the number of positions is now only restricted by their budgets and the need for balancing salaries against other tasks.

243. Since 1995, following the Act on Universities and Colleges, the higher education sector has essentially experienced a common appointment structure. The permanent academic positions are *professor, associate professor, senior lecturer, assistant professor and researcher*. University colleges have two additional positions; *college reader* and *lecturer*. *Senior lecturer* and *assistant professor* positions are rarely used in the university sector. Subsequently, in reality universities now have only two kinds of permanent positions – *professor* and *associate professor*. The requirement for obtaining tenure at a university is a doctoral degree or equivalent, which automatically qualifies for an associate professorship for those appointed to a university academic position. *Researcher*: This position is connected to a specific research project, and researchers may or may not have a permanent position.

[32] Points 7.2 – 7.5 are mainly based on Kyvik & Smeby (2004).

244. In addition to these permanent positions, three types of temporary positions are found:

Research fellow: This is a temporary 'educational' position for doctoral students of four years' duration, with a 25 per cent teaching responsibility included in the period. Appointment as a research fellow requires admission to a doctoral programme. Doctoral students have legal status as temporary staff. *Research assistant*: Primarily used for short-term assistants engaged in research projects. *Post doc*: A temporary 'educational' position of two to four years' duration requiring a doctoral degree.

245. In 2003, the universities, the specialized university institutions, and the university colleges accounted for more than 14,000 academic staff (Table 7.1 in appendix). About 60 per cent of these are employed in the university sector, and 40 per cent in the university college sector. At the universities and the specialized university institutions the distribution of the various academic positions reflects their role as research and research training institutions. More than 90 per cent of all professors work in these institutions. If we look at the student – staff ratios in universities, the numbers were 14:1 during the 1980s, increased to 23:1 during the student influx in the early 1990s, and stabilised around 19:1 at the end of the decade (Smeby 2001). (See also Tables 7.9–7.10 in annex for more detail on student–staff rations.) In the university college sector, the majority of academic staff have status as assistant professor, compared to a very small minority of the staff at the universities and the specialized university institutions.

246. First and foremost because most of the positions as research fellow (doctoral student) and post doc are affiliated to the universities, the proportion of tenured staff is only 50 per cent in the university sector in contrast to over 90 per cent in university colleges. Only small changes in the proportions of tenured versus non-tenured staff occurred between 1991 and 2001.

247. The Quality Reform seems to change the picture concerning how tasks are distributed among academic staff. In the period from 2001 to 2003, some interesting developments can be noticed. Within universities, the number of professors has increased from 1795 to 1977 in real numbers. The number of associate professors has decreased in the same period going down from 1335 to 1250. The number of post-doc positions has also increased from 441 to 647. Probably as a result of an increased teaching load, the number of assistant professors is also increasing from 288 to 420. Within the specialized university institutions, an increase in academic staff in all positions is noted, almost doubling the number of associate professors (276 to 418) and with an impressive growth also in professors (from 243 to 364). In real numbers, the numbers of new academic staff have been largest within the specialized university institutions. For university colleges, the changes are mostly noticeable for professors and assistant professors. The first group has increased in numbers from 174 to 229 in two years. Concerning the latter, a decrease in numbers can be noted.

248. Academic staff at the level of assistant professor and above normally have permanent employment. However, appointments of temporary staff to permanent positions are permissible if no qualified applicants are available during a period of maximum 3.5 years following appointment. Academic staff in higher education is subject to the same regulations as other state employees. This includes the right to salary during sickness, maternity leave, and occupational injury. The general retirement age is 67, but public employees can retire from the age of 62, and must retire by the age of 70. Most university professors only retire at 70. The official working week for academic staff is 37.5 hours, the same as for all public employees.

249. In general, academic staff in higher education have salaries that are comparable to other public employees, but low compared to their counterparts in industry and the business sector. Increasingly, salaries are set through negotiations between the unions and institutions within the limits of the pay scale according to a set of different criteria of which the applicant's productivity in research and market value are the most important. Most salaries for these positions tend to be at the lowest level or close to this, but during the last few years higher education institutions have increasingly applied the span of the pay scales to reward staff members essentially on the basis of academic competence. (See Table 7.3 in annex.)

7.3 Working conditions

250. Concerning working conditions for conducting research, surveys indicate that faculty members at universities and specialized university institutions are fairly dissatisfied with their research possibilities. In 2000, 29 per cent of Norwegian faculty members reported that the possibility for carrying out research was "very good" or "good"; 30 per cent stated this as "satisfactory"; 42 per cent described the situation as "bad" or "relatively bad". However, no important changes in faculty members' satisfaction occurred throughout the period 1981 to 2000.

251. Surveys conducted in 1982 and 2001 asked faculty members to what extent different considerations caused problems for their research (Table 7.2 in appendix). The most important problem in 2001 was lack of uninterrupted time. Lack of available research resources and time-consuming administrative tasks were also reported to cause many problems. Teaching and administration seemed to cause fewer problems in 2001 than in 1982, although none of the presented conditions seemed to cause more problems. Since "lack of uninterrupted time" was not included in the 1982 questionnaire it is not possible to assess whether this problem has increased over time.

252. Even though the increased student–staff ratio had no impact on faculty members' teaching load, it would be reasonable to assume that a greater number of students would have some indirect negative effects. Data also show that the average number of graduate students supervised has increased from around 4 in 1981 to 6.4 in 2001 (Smeby 2001). Moreover, there has been an increased focus on teaching quality, and student evaluation of teaching has been more formally introduced. Indeed, faculty members spend somewhat less time on teaching than 20 years ago, but this is hardly enough to explain why teaching causes fewer problems for research. One reason may be that faculty members have put more effort into 'protecting' research from teaching tasks and student demands.

253. It is also interesting to observe that the increased number of supervised students does not seem to have caused extra problems for their supervisors' research conditions (Table 7.2). An important reason is that graduate students are often regarded as manpower resources in faculty members' research, especially in the natural sciences, medicine and technology (Kyvik & Smeby 1994). In 2001, 46 per cent of the faculty members considered their supervision of PhD students to be an important contribution to their own research, and 18 per cent characterised their supervision of Master degree students in the same way.

254. The reason why administration seems to cause fewer problems for research than two decades ago may be the professionalisation of administrative positions in universities (Table 7.2). While the proportion of clerical assistants has declined, there has been a significant increase in the number of consultants, advisors and administrative leaders (Gornitzka et al. 1998). There have also been attempts to

moderate the committee structure and to reduce the administrative workload among faculty members (Gornitzka & Larsen 2001).

255. Faculty members' assessment of their possibilities to do research remained generally unchanged during the period although it should be recognised that nearly half of those responding reported that research conditions were "bad" or "relatively bad". Data indicate that it may be more important to focus on faculty members' lack of uninterrupted time for research than, for example, on the teaching load.

256. In the 2001 survey, faculty members who had been employed as a professor, associate professor or assistant professor in a higher education institution during the previous decade were asked to account for their own experience concerning changing demands from other people and society. The general trend is that faculty members assess the demand to be higher for all kinds of tasks.

257. Methodologically, it is however somewhat difficult to interpret these results because individuals may not be capable of adequately assessing changes in demands over time. It is, for example, reasonable to assume that faculty members become involved in an increasing number of tasks during their career as they become more competent and experienced. Even though demands increase at the individual level this may not be so on a macro level. Furthermore, a large proportion of faculty members are relatively dissatisfied with their research conditions. May be dissatisfied respondents tend to have the impression that the situation has become worse. This might explain why university staff in the public debate complain that they have less time for research than previously, and that the possibilities for undertaking research have generally declined, even though data presented above indicate stability during the last two decades (Smeby 2001). Increased demands for quality and efficiency are, however, a general trend in society. It is reasonable to assume that employees in other sectors would also report that their work has become more demanding.

258. As a consequence of the Quality Reform the working conditions for academic staff might have changed in recent years. Due to the development of new study programmes, and the closer follow up of students, an increased teaching load might be expected, at least in the implementation phase, with possible negative consequences for research. However, the financial costs associated with the implementation of the reform have been fully met. The evaluation of the Quality Reform will shed more light on this issue in autumn 2005.

7.4 Aging and recruitment of academic staff

259. The average age of academic staff has increased significantly over the past two decades; from 46.0 in 1981 to 49.5 in 1991; and to 52.7 in 2003. Female staff members were slightly younger than their male colleagues at all three points in time; varying between 0.7 years in 1991 and 2.0 years in 2003. The ageing of university staff becomes even more dramatic when looking at the distribution of age cohorts over time (Figure 3.4). While 30 per cent of academic staff was younger than 40 in 1981, this pertained to only 9 per cent in 2003. And while 20 per cent of the staff were 55 or older in 1981, this proportion had increased to 46 per cent in 2003. There were only small differences in age distribution between male and female staff.

260. These changes in the demographic composition of academic staff are partly due to a strong expansion in student and permanent staff numbers in the 1970s, and a corresponding expansion in the late 1980s and early 1990s, and partly due to a relative decrease in the number of permanent positions in comparison to a strong increase in temporary recruitment positions (research fellow, research assistant, post

doc). The number of tenured academic staff increased by 40 per cent from 1981 to 2003, while the number of recruitment positions increased by 120 per cent. Government policy thus has been intentional in reducing the relative number of tenured academic staff to increase institutional flexibility. While recruitment positions constituted less than 40 per cent of the total number of permanent and temporary positions in 1981, this proportion increased to nearly 50 per cent in 2003. In the coming years, the Quality Reform will most likely have a continued impact on this development. And while there were relatively many vacant permanent positions and relatively few applicants in 1981, two decades later job openings were relatively few and the number of aspiring staff members were comparatively larger although with some disciplinary differences.

261. Concerning recruitment, doctoral studies are financed in various manners, where temporary positions financed by the Research Council of Norway, the universities themselves, or by medical funds and associations are the most important. Two-thirds of doctoral students have temporary positions in the higher education sector. In 2001, the Research Council financed 45 per cent of these positions; the higher education institutions 33 per cent; and other sources 22 per cent.

262. Doctoral students are appointed as research fellows for four years including 25 per cent teaching duties. Hence, the work related to the doctoral studies is supposed to take three years full-time. Mandatory course work varies in extent between six months in the humanities, the social sciences, and medicine, and one year in the natural sciences and technology.

263. An evaluation of the research training system initiated by the Ministry of Education and Research, the Research Council of Norway, and the Norwegian Council for Higher Education has recently been undertaken. The aim was to assess Norwegian research training in an international perspective with particular attention to the quality and efficiency of the education. The evaluation revealed a number of critical factors (Research Council of Norway 2002).

264. An essential problem was that students overall are too old when they submit their thesis. This especially applies to the humanities, the social sciences, medicine and odontology, where the average age is more than 40. By contrast, in the natural sciences and technology the average age was about 33. By comparison, Norwegian doctoral students in the natural sciences and technology are similar in age to their American counterparts, but 5–6 years older in the social sciences and the humanities, and 4–5 years older in the health sciences.

265. There are a number of critical phases in the entire course of training which result in the high age at which the doctorate is conferred. Firstly, many students are relatively old when they obtain a higher degree. Secondly, a long period may elapse between graduation from the higher degree and admission to a doctoral programme. Thirdly, many students spend considerably more time than the norm for completing a doctoral degree; and fourthly, a long period may elapse between submission and defence of the thesis (mostly due to tradition, but also to capacity problems). In total, this results in a high age for completion of the doctoral programme.

266. The age of doctoral graduates is a problem in a recruitment perspective. The age of graduates in some field means that they are quite old when obtain tenure at an institution, and that the number of years in active research is reduced. Following the Quality Reform, government policy has emphasised an increase in the number of post doctorate positions and positions for doctor degree students as well (fellowships). Due to the ageing of the academic staff, the authorities anticipate problems in replacing qualified personnel and have also expressed concerns about the possibilities for

expansion in some areas. As a consequence of these concerns, an action plan for increasing the number of ph.d fellowships was passed by Parliament. The follow-up of this action plan is presently discussed. The number of post doc positions, however, is increasing.

7.5 Promotion of academic staff

267. A doctoral degree (or equivalent competence) is a mandatory requirement to obtain tenure as an associate professor. All applicants for tenured positions as associate and full professor in the university and university college sector are assessed by peer review committees and appointed by the institution.

268. Promotion to the rank of full professor has traditionally been dependent on vacant positions and competition with other applicants. However, as from 1993, associate professors in both the university and the university college sectors can apply for promotion to professorship on the basis of individual research competence. This change in the career structure was first proposed by a government commission set up in 1987 to evaluate all aspects of the higher education system in Norway, including staff policy. In its report, the commission justified the reform proposal through five statements of principle:

- Creation of a more just career system: The main argument for this reform was that many faculty members had a position and salary below their 'true level' of qualification and that this was unreasonable. The committee estimated that 25 per cent of the associate professors had previously been assessed as qualified for professorships through applications for vacant positions.
- Enhancement of the research competence of academic staff: The committee argued that a system allowing promotion to full professor on the basis of achieved research competence would enhance motivation for scholarly work. Increased productivity and better quality of research would most likely be the outcome of such a reform.
- Increased attractiveness of academic careers: The committee furthermore assumed that the reform would make it easier for higher education institutions to recruit and retain academic staff because staff could plan their careers without depending on professorships becoming vacant.
- Increased numbers of female professors: The committee assumed that the reform would make it easier to increase the number of female professors. A career system whereby promotion to professorship could be achieved on the basis of personal research competence would enhance women's opportunities compared to the traditional career system based on competition between several applicants.
- Improvement of the scholarly and social climate at departmental level: This was a final argument put forward by the committee. Because all academic staff found competent by national evaluation committees would be promoted to a professorship, internal competition for a limited number of vacant positions in respective departments would cease to exist. The reform could therefore lead to closer collaboration between staff members.

269. This reform made it possible to become a professor in three different ways: a) by applying for a vacant professorship in open competition and to be appointed as the best qualified applicant; b) by applying for a vacant professorship in open competition, being found competent but not the best qualified by the evaluation committee and then being promoted to full professor; and c) by applying for

promotion to full professor on the basis of individual research and being found competent by a national peer review committee. The latter strategy has now become the most important way of attaining a professorship while fewer (one third) are appointed to an ordinary professorship due to few vacant positions. A similar arrangement allowing assistant professors to apply for an associate professor position also exists.

270. These changes in the career structure have led to a substantial increase in the number of professors in the university sector, from 38 per cent of the tenured academic staff in 1991 to 47 per cent in 2001. A recent review of the system concluded that the reform had positive effects on career possibilities among academics, and has had more positive than negative effects on scientific quality. Further, the reform may increase the proportion of women among the professors. On the other hand, the reform has led to lower mobility and an increase in the number of appointments from own institution (Kyvik, Olsen & Hovdhaugen 2003).

7.6 Financing – changes in the funding of higher education

271. The financial system and allocation of funds to institutions has over time changed from a system where the budget was broadly based on the number of students and specified in much detail on expense categories (salaries, other current costs, scientific equipment etc.), to a new system where the institutions are free to decide for themselves on how to allocate their total block grant between types of cost. Higher education institutions have, in other words, taken over several responsibilities and tasks that traditionally were in the hands of the Ministry of Education and Research.

272. The total of the block grant is in the new system the result of several factors. Table 7.4 indicates the distribution of the General University Funds as institutional block grants among the main categories of HEI institutions.

Table 7.4 Budget allocation for Higher Education Institutions 1995 and 2005 for The Ministry for Education and Research and the Ministry of Labour and Administration. Funding from contract research and other sources of research funding outside General University Funds are not included. Million NOK

Type of institutions and type of costs	**1995**	**2005**
Universities, total costs	**5 182**	**8 739**
Of which salary	3 185	-
Other current costs	1 611	-
Capital expenditure including buildings and equipment	386	..
Block grants	-	8 739
Specialized university institutions, total costs (private and state)	-	**1 517**
Of which state, block grants	-	1 274
Of which private, block grants	-	243
University colleges, total costs	**4 278**	**7 420**
Of which salary	2 331	-
Block grants	-	7 420

Specialized university institutions included in figures for Universities in 1995

273. Funding from external sources outside General University Funds amounted to 630 Million NOK in 1995.

274. Along with, although formally a part of, the Quality Reform of the higher education system, a new funding system of these institutions has been introduced, by which the institutional block grants are calculated according to a completely new formula. Under the new system resources are distributed (in short) in the following way (see also table 7.6 in annex for a detailed description):

- a "basic component", which on average is around 60 per cent of the total allocation;
- an "education component" covering on average about 25 per cent of the total allocation (31 per cent in university colleges and 22 per cent in universities) and based on the number of students credits obtained, the number of graduates (not implemented yet) and the number of international exchange students; and
- a "research component" covering on average 15 per cent of the total allocation (6 per cent in university colleges and 22 per cent in universities), which is partly a result-based allocation.

275. The new funding system was introduced to universities in 2002, and later expanded to include almost all higher education institutions (including private institutions, but not the National Academies of the Arts). As illustrated in table 7.5a, b and c (see annex), funding of higher education is predominantly a public affair (over 90 per cent of funding is from public sources). Much of the funding labelled as "external" also stems from public sources (see table 7.5c), even if the private sector has increased its share slightly during the latter years (see table 7.5b).

276. The new funding formula is a performance-related funding model introduced in 2002 as the starting year, based on performance in year 2000 (the budget for a given year is based on the performance two years earlier). The percentages indicate the relationship between the three components in the year 2002. There will be variation from year to year and between institutions. In more detail the basic component supports the need for stability and special priorities. For instance special needs concerning a variety in disciplines and subjects, special needs for different regions and running expenses and maintenance cost for buildings.

277. The basic components cover some parts of the expenses for teaching and research so that the higher education institutions are less vulnerable for fluctuations in the number of students. The education components consist of the part mentioned above, and 40 per cent of the cost for the students is based on the credits the students produce. There is no upper limit (as opposed to the research component) in the way that the universities and the colleges can increase their revenues. The subjects are divided in six different price categories based on the complexity of the teaching and the use of scientific equipment[33]. In 2003, the number of credit points obtained per

[33] In more detail the research allocation consists of one part redistributed on the basis of performance and one part related to quality and strategic considerations, which includes funding of positions for doctorate students. Regarding the performance-related part of the research allocation, redistribution between universities is based on degree production specified by level (PhD, Master), funding from EU and from The Research Council of Norway. The number of higher academic positions (professors etc.) is also included. The latter is also included for colleges in addition to credit production and external cooperation. As opposed to the education component there is an upper limit on how the institutions may increase their revenues. The institutions that increase their revenues are the institutions that perform relativity best in comparison to the other institutions. In the near future the research component will also be based on the production of scientific publications.

student increased in relation to previous years, and the new funding formula is most likely one of the reasons for this (Credit point per student was 38.34 in the year 2000, increasing to 41.97 in 2003).

278. Tables 7.6 – 7.8 (see annex) indicate some of the key formulas for calculating the block grants of various kinds of institutions and disciplines. As illustrated in the tables there is a distinction between universities and specialized university institutions, which do not receive extra budget appropriations for research due to external funding and study points, in opposition to the university colleges. These differences reflect national priorities and the strategic functions of the various institutions including e.g. their regional role (see also chapter 4). On the other hand, the latter institutions do not receive extra budget appropriations for research according to their ability to obtain funding from the EU, neither for funding from research councils or doctoral degrees. (A detailed description of the calculation of student costs in the funding formula is provided in annex, Tables 7.11–7.13 plus text.)

279. The quality reform gives higher education institutions increased autonomy concerning management and organisation of their activities. This includes significant freedom concerning the choice of disciplines and subjects that the higher education institutions wish to offer. The institutions‘ performance, both in teaching and research, is closely monitored by the central authorities. The outcome of the assessment is an element in the new funding formula and influences the resource allocation to the higher education institutions.

280. In addition to these block grants from the Ministry of Education and Research, the institutions finance their activity by external funding from, in particular, the Research Council of Norway and other research agencies or contractors. External funding of research in HEI has increased considerably, in particular from the Research Council of Norway and foreign sources (EU R&D funding in particular).

7.7 Problems and pressures in funding higher education

281. The new funding system responds to the consequences of the high growth in HE students and hence to the costs of higher education. The introduction of a new system of funding, of which performance based funding is a new part, responds *inter alia* to concerns about the cost effectiveness of higher education, and stimulates student progression, and the development of new and attractive study programmes. The earlier funding system was also seen to cause structural imbalances between the funding of research and education in HEIs respectively, as research funding was seen to be far too closely linked to education and student numbers, allowing for too little discretion for the separate funding of research according to needs and considerations pertaining to research in particular. Thus, the new funding system to some extent separates the funding of research and education within the institutional block grants.

282. Concerns are nevertheless being expressed about the role of research funding as a consequence of the quality reform, seen primarily as a reform of the structure of higher education. R&D statistics indicate that the discretionary funds for research (“annum”) per research man-year have increased during the 1990s, while external research funding has also increased considerably, in particular, as already indicated, from the Research Council of Norway. This apparently belies the strongly voiced concerns of university researchers that conditions for research at these institutions have deteriorated during this time.

283. National research funding has increased in general, following a target set by Parliament in 2000 that by 2005, the level of national R&D resources should increase

to that of the OECD average, measured as a proportion of GDP. Considerable growth in government appropriations for research has been achieved, with an annual average increase of 8 per cent from 2001 to 2004, declining to 3 per cent in 2005, in particular due to the proceeds of a new Research Fund established in 1999. The proceeds from this fund increased quickly, until it contributed approx. 2 billion NOK to the government research appropriations in 2004 and 2005. Initially the total of the proceeds was distributed to research projects by the research council, but has since 2002 been partly distributed as part of the strategic research part of the institutional block grants, mainly for funding positions for ph.d fellowships and scientific equipment.

7.8 The public – private benefits of the existing financing system

284. Due to the fact that Norwegian students in higher education do not pay tuition fees, one can argue that the state subsidises the education given to those who attend higher education. The argument can be extended by claiming that the individual students gain most of the benefits of this arrangement through their pay-check after graduation. Thus, the question can be asked whether the public private benefits of the existing financing system of higher education is well balanced. However, one should also bear in mind that salaries for those with higher education are lower in Norway than in many other countries (Arnesen & Try 1999). While the economic benefit of one year of education is between 4 and 5 per cent in the Scandinavian countries, it is estimated to about 8 per cent in Germany and about 10 per cent in the UK and the USA (Asplund et al 1996, Stewart 1996, OECD 1997). Due to increased internationalisation of Norwegian higher education, and the perceived difficulties in maintaining the current system in the future, issues concerning the public private benefits of higher education are attracting increased political interest.

7.9 Financial support to students

285. Financial support to students is allocated through the State Educational Loan Fund (Lånekassen), which was established in 1947. A total of 16 122 mill NOK was made available as financial support to students in the year 2003-2004. Of this about 6 400 mill NOK was made available as grants, and about 9 700 as loans.

286. Parallel to the Quality Reform, changes were made in the system of financial support to students in Norwegian higher education, whereby the cost-of-living allowance (basic support) increased from NOK 7 000 to NOK 8 000 (approx. EUR 1 100) per month from the academic year 2002-2003 (intended to cover 10 months[34]). The allowance consists of a combination of loans and grants but from 2004-2005, the total amount is initially given as a loan. The relevant share of the loan will be converted to grants upon completion of examinations or study programmes. Students not living with their parents are eligible for a grant equivalent to 40% of the maximum cost-of-living allowance upon completion of studies. Students supporting children may have a child care grant in addition to the cost-of-living allowance. In 2004-2005, a child care grant amounts to NOK 1 290 per month per child for the first 2 children, then the rate decreases to NOK 830 per month per child from the third child. Such grants are means tested to the family's income. Loans up to NOK 20 860

[34] As a comparison, the reference point [1G] in the National Insurance System was in the same year NOK 56 861, or NOK 4 738 per month.

are available to cover all or part of the tuition fee for courses at private higher education institutions in Norway.

287. Students studying abroad are also eligible for grant and loan on the same level as mentioned above through the State Educational Loan Fund. There are special support schemes for students that attend foreign HEIs with tuition fees. For higher degree studies and for studies taken as a part of a Norwegian degree, the support is given as 70 per cent grant and 30 per cent loan of a maximum of NOK 52 320. For lower degrees the share is 50/50. In addition students may have tuition loans of up to NOK 50 000 per academic year. For studies at various high quality foreign institutions with particularly high tuition fees, a supplementary grant of NOK 55 320 can be awarded (see also section 10.5).

288. A more detailed description of the system of financial support to students is available in annex.

Chapter 8 Planning, governing and regulating the system

8.1 Introduction

289. In this chapter the shape and structure of the higher education system is described along with a presentati on of how the system is governed and regulated, and the links the higher education system have with adult and continuing education. The main characteristics of higher education in Norway focuses on the integration of the various parts of the system, including the links across institutional types, between higher education and the upper secondary level, including adult and continuing education and vocational training. At present, the higher education institutions are obliged by law to recognise each other's credits and study programmes. Concerning the dimensioning of the system, this has, during the last decade, mostly been driven by student demand, in combination with government regulations in some fields of study.

290. The institutional autonomy has also been strengthened during the last ten years, and at present HEIs are increasingly responsible for capacity dimensioning issues (except for some resource-demanding studies, and fields of study of national importance). Institutional autonomy has also increased along other dimensions (economic, administrative and concerning personnel), and the chapter shows how the institutional management is being strengthened as a response to the political initiatives to increase the strategic potential of HEIs. To support institutional autonomy, new and improved governance instruments are established, including monitoring systems, and annual consultative meetings between the Ministry of Education and Research and the individual HEIs.

291. In the latter parts of the chapter, the links between higher education and other parts of the education system are described, and it is shown how reforms at the upper secondary level have created a stronger link between the two levels. The Competence Reform, enabling students with non-formal qualifications to enter tertiary education is also described, along with a short presentation of the national admission system.

8.2 An integrated higher education system

292. Even if one can distinguish between different types of higher education institutions in Norway, higher education is still well coordinated and integrated – a point that was already made by an OECD review in the late 1980s (OECD 1988). At present, there is a common Act for all public higher education institutions, and transfer of credit points and recognition of study programmes across institutional types are mandatory and in most cases unproblematic. This is the case also for the relationship between public and private higher education, the latter being is regulated through a separate Act.

293. The present Act relating to Universities and Colleges (1995, amended in 2002) apply to the following categories of public higher education institutions:

a) universities
b) specialized university institutions
c) university colleges
d) national academies of the arts

294. The Act specifies the aims and activities of the institutions in the following way:

- The institutions under the present Act shall provide higher education on the basis of the foremost scientific research, artistic development work and empirical knowledge. Institutions involved in higher education and research shall cooperate and complement each others' academic activities (Network Norway). Educational provisions shall be planned and viewed in relation to other national and international educational provision.
- The institutions shall engage in research and academic development work and/or artistic development work.
- The institutions may not be instructed regarding the academic content of their teaching or the content of research or artistic or scientific development work.
- The institutions are responsible for disseminating knowledge of their activities and for promoting the understanding and application of scientific methods and results in public administration, cultural life and business and industry.
- The institutions shall cooperate with civic and working life.
- The institutions have organizational and academic responsibility to provide continuing and further education in their fields.
- The universities and specialized university institutions have particular national responsibility for fundamental research and research training, and for building up, running and maintaining research libraries and museums with scientific collections and public exhibitions. Other institutions might be assigned similar responsibilities in their respective special fields. The National Academies of the Arts shall have national responsibility for the research and development in their fields.
- The institutions shall have satisfactory internal systems for quality assurance. Student evaluations of courses shall form part of the systems for quality assurance.

295. These formulations in the legislations are important for the responsibilities for the different institutions, and to set the differences and linkages within higher education. The Act also states the importance of the institutions' cooperation with industry, to contribute to the economy, and to the development of society in general.

296. As an illustration of the degree of integration, a study of student mobility within the higher education system found that between 10 and 20 per cent of students change institutions during the course of their studies, but that mobility varies somewhat from one year to another. The study also found that student mobility was most intense after the first and third year of study (Roedelé & Aamodt 2001). A particular feature of the Norwegian higher education system seems to be that mobility goes both ways, from universities to university colleges and vice versa. Universities loose students during the first three years of study while university colleges loose students (both to other university colleges and to universities) after that point. This pattern is partly explained by the degree structure of the two sectors, where university colleges traditionally have offered shorter study programmes leading to a lower degree at the bachelor-level, but also that university colleges traditionally have offered study programmes attractive to many students (in nursing, teacher training, more vocational-oriented programmes, etc.) (Roedelé & Aamodt 2001). Within more professionally-oriented study programmes, mobility between institutions has been very low.

297. Although integration is a dominant characteristic of the system, academic specialisation is still encouraged to maintain diversity. With the Quality Reform (St.meld. 27 2000-01), academic specialisation is presented as an important objective for higher education in Norway. However, instead of using central planning as the main instrument to reach this objective (as was the case during the 1990s – see chapter 2), the idea is that institutional competition should be a more prominent mechanism in the system. Following this idea, more academic, financial, personnel and organisational autonomy has been granted the institutions, especially concerning (Ministry of Education and Research 2004a): the dissemination and application of research, the responsibility of higher education institutions to society, and the academic autonomy and self-regulation of institutions.

298. The tendency towards increased institutional autonomy in the last decade has been balanced by attempts to strengthen accountability. The building up of a national system of evaluation of higher education started already in 1992 when a pilot project with national disciplinary evaluations in certain fields was launched. Currently NOKUT, the national accreditation agency, has the responsibility to conduct national evaluations and accreditations.

299. Beside extending the system of external evaluation and quality monitoring, other quantitative and qualitative systems for checking on efficiency and effectiveness issues have also been established. On the quantitative side, the setting up of a national database for higher education (DBH) has been an important step towards improving the performance indicators of, and the information on, the sector. DBH contains information on staff, students, mobility as well as financial data, and is mainly used for planning, monitoring and budgetary purposes by the Ministry. DBH, however, is accessible to everyone, and can also be used for transparency purposes and for research. Other quantitative data are collected regularly and analysed for continuing and adult education, R&D and other areas. Norway is, in addition, active on the international arena, in developing more valid and comparable quantitative data and performance indicators on higher education, both within the EU and within OECD.

300. As part of the budgetary process, the Ministry requires an annual report from every higher education institution on their results and achievements and future plans, and this report is also used as a basis for consultative annual meetings between representatives of the Ministry and the institution. These meetings are important for the monitoring of the system, as well as for setting targets and objectives for the coming years. This form of a dialogue-based approach between the Ministry and the public higher education institutions has a long tradition in Norwegian higher education (Bleiklie et al 2000), and has in recent years been formalised as a standard procedure.

8.3 Dimensioning and diversity

301. At present the capacity is planned so that about half of each age cohort can be admitted to higher education. Even if more autonomy concerning the capacity has currently been given to the institutions, the policy is still that some state control of the dimensioning of the system will be undertaken (see also chapter 3). This goes particularly for very resource-demanding study programmes, in areas important for the stimulation of the national economy, for the functioning of the labour-market, and for national infra-structure (in health, medicine, etc.). At present, special targets for further expansion of the system in terms of student numbers have not been set.

302. The merger of former regional colleges creating the new university colleges in the mid-1990s, and the huge influx of students in the early 1990s, created some larger institutions with a wide range of disciplines. The size, the number of disciplines and the academic quality in the new areas developed, triggered some of these new institutions to opt for university status. Hence, in 2004 the first university college was regarded by NOKUT, the state accreditation agency, to possess the necessary quality and scope to acquire university status. A specialized university institution has also been accredited for university status, and one private HEI has been accredited as specialized university institution status. The accreditations were later ratified by the Government, and in 2005, Norway got two new universities and one new specialized university institution (see also chapter 2.7).

303. However, the new universities are not intended to have the same profile as the four traditional (pre-2005) universities, the point being underlined by the fact that a central criterion for becoming a university is that two out of the required four ph.d programmes must have "regional relevance and national significance" (see also chapter 4). The intention behind this criterion is to prevent university colleges from emulating existing universities, and rather develop their own profile. Given the existing competition for students in the new funding system, there is, however, a possibility that existing universities can also emulate university colleges. This could, in the long run, create a less diversified system.

8.4 Institutional governance and governing bodies

304. The Quality Reform in higher education changed some of the institutional governance structures at Norwegian higher education institutions. In the current Act, the Board of an institution shall consist of eleven members: four academic representatives (including the rector and pro-rector), one representative from the technical and administrative staff, two student representatives, and four external members appointed by the Ministry of Education and Research. The latter usually have a background from industry, business, culture, politics, public organisations or bodies.

305. Currently, the Board is headed by the rector of the institution. The members of the Board are elected for a term of four years, except for the two student representatives, who are elected for one year. The task of the Board is to set the strategy for the institution and conduct budgetary planning. The Board has the overall responsibility for both academic and administrative affairs. The administration is headed by a general director. The director is appointed by the board. Traditionally, there has been a division of responsibility between the rector and the director in that the rector cannot instruct the administration on administrative issues. Hence, institutional governance has been split into one academic and one administrative authority (the new Act on higher education proposes several changes in the institutional governing bodies – see below). In general, this split has not resulted in any particular problems for the Boards. Studies do show, however, that Boards in general have not fulfilled their intended strategic role (Larsen et al 2004).

306. The Quality Reform has provided the individual state higher education institution with the freedom to decide its organisational structure below the institutional level, however (i.e. faculties and departments). Each institution can, therefore, in principle adapt its (basic) structures to meet its own distinctive character as well as its particular tasks and challenges. In a recent study on how public institutions are adapting to the new freedom of choice, Larsen et al (2004) found:

- an elimination of the academic councils supporting the institutional Board (university colleges)

- a tendency towards integrating administrative and academic responsibility at the faculty/department/institute/unit level with appointed academic leaders heading departments

- a tendency to remove departmental boards and replace them with consultative bodies, staff meetings, etc.

- a strengthening of the hierarchical structure of the institutions through new reporting mechanisms, budgeting systems, etc.

- greater variation in institutional governance arrangement, sometimes combining elected academic leadership in some departments with appointed ones in others, with similar variation at the faculty level (disciplinary differences)

307. Larsen et al (2004) concludes that it is too early to detect any effects of these new governance arrangements[35], and that balancing tendencies towards greater "managerialism" with elements of the traditional collegial and democratic governance arrangements is vital in the implementation of the new system since academic and student representation in the formal governance bodies at the department level is reduced.

308. However, student participation in the governance of higher education institutions at the institutional level has been strengthened. Following the Quality Reform, student representatives should have at least 20% of the seats, two seats at the minimum in the executive bodies of the institution. The Quality Reform and the new legislation intend to guarantee the students' physical and social learning environment. Equal numbers of student and staff representatives shall, at the institutional level, form a Learning Environment Committee to ensure the best possible learning conditions. The Labour Inspection Authority has been authorised to monitor the learning environment.

8.4.1 Improving institutional management

309. The political intention of transforming national steering and institutional governance of public higher education in the direction of a more result-oriented system has been followed up in a number of concrete measures. A net-budgeting system has been introduced to institutions, allowing them to keep any financial surplus of their activities, to more easily switch funds between staff and running expenses, and to combine public with private funds and resources.

310. Following the Competence Reform institutions have also been allowed to set up subsidiaries intended for applied and contract research, and to charge tuition fees from those interested in tailor made continuing education and commissioned activities (see also chapter 4 and 5).

311. Since the mid-1990s, institutions have been encouraged to develop more flexible internal arrangements concerning the allocations of tasks of academic staff, e.g. in using non-tenured staff to certain tasks (teaching), to hire personnel for shorter periods and projects, and to differentiate more between staff in their terms and conditions (This seems to have had some effects - see chapter 7). Through these and

[35] For many university colleges, having appointed academic leaders means going back to governance arrangements prior to 1994.

other measures such as the opening up for appointed academic leaders, and through leadership training activities, an activity almost all institutions have implemented, institutional adaptation and transformation is sought stimulated (St.meld 27 2000-01). The Norwegian Council for Higher Education also offers its own leadership training programme for academic leadership at different levels.

8.4.2 Academic autonomy in teaching and research

312. As a result of the Quality Reform the higher education institutions have been given significantly more autonomy in managing and organising their activities (St.meld. 27 2000-01). Public higher education institutions have increased institutional autonomy in terms of introduction and repeal of courses and study programmes. The universities can decide which disciplines, subjects and subject combinations they wish to offer, and that will form the basis for the various degrees. The specialized university institutions, the university colleges and the colleges of art can decide which disciplines, subjects and subject combinations they wish to offer, and that will form the basis for lower degrees. In those subject areas in which they can award doctorates, they can decide which disciplines, subjects and subject combinations they wish to offer, and that will form the basis for other degrees as well. However, the academic autonomy is restricted by requirements that teaching should be based on research activities, and that the link between research and teaching should be strong.

313. Academic staff is expected to spend a significant share of their working time on research, and all teaching should be research-based. The amount of time individual university sector staff spend on research-related activities has been fairly stable over the past 20 years (see chapter 5 and 7). In the university college sector, a fixed percentage of the working time to be devoted to research activities has not been agreed upon. There is a special agreement between the Ministry of Education and Research and the unions of the academic staff regulating the number of working hours, salaries, working conditions, etc.

314. Private institutions of higher education can obtain the same academic rights as their public counterparts following a successful application for institutional accreditation. If such accreditation is not given, these institutions must apply for individual accreditation for each study programme offered.

315. Currently a debate about what increased institutional autonomy actually means is taking place in higher education in the aftermath of the Quality Reform. The background for this debate is the new tensions arising within institutions as the institutional level to a greater extent is using its discretion and strategic ability, while basic units, and particularly the individual academic, feel that their traditional freedom concerning teaching and research, and how these activities should be conducted, is under pressure.

8.5 Changes in governmental steering – current and future perspectives

316. A new Act for higher education is to be discussed and approved by the Norwegian Parliament in spring 2005. In the Bill it is proposed that public and private higher education institutions should be integrated into a common regulative framework. The present separate acts for private and public higher education institutions, respectively will then be abandoned.

317. Another important element in the proposed new Act is the changes in the governing bodies of the higher education institutions. One of the most important

proposals is that the Board should have a chairman recruited externally, and that the rector should not be a representative of the Board (see below for a description of the current institutional governing arrangements).

318. The Ministry has also signalled to the institutions that the institutional performance, both in teaching and research, will be closely monitored in years to come, and that the result-based funding schemes, including research, will be further developed. In a joint effort between the Ministry and the Norwegian Council for Higher Education, a scheme to measure scientific publication to be used as a basis for resource allocation and funding is in the process of being developed by the latter.

8.6 System linkages and cooperation

8.6.1 The relationship between higher eduction and upper secondary education

319. Access to higher education institutions is normally gained on the basis of upper secondary education. Since autumn 1994, everyone between the ages of 16 and 19 has a statutory right to three years' upper secondary education leading either to higher education entrance qualifications, or to vocational qualifications or partial qualifications. The reform imposing these changes was Reform 94. This reform also reduced the number of foundation (first year) courses in upper secondary education from 113 to 13, and an increase in advances courses (second year) to provide a clearer and more straightforward way of achieving formal upper secondary, particularly in vocational programmes, but also access to higher education (Ministry of Education and Research 2004a). After an evaluation of the reform a number of adjustments were carried out. The current course structure comprises 12 vocational areas of study and three areas of study leading to matriculation qualifications. Within the vocational areas there are still 102 advances courses (second year) leading to 224 different vocations, most of them involving apprenticeship training with instruction both at school and in industry. In addition, three courses of training in the vocational areas of study lead to matriculation (Ministry of Education and Research 2004a).

320. A recent white paper (St.meld.nr. 30 2003-2004) pointed to the successes of Reform 94 in removing structural barriers to qualification and access to higher education, but notices that in recent years the current structure creates problems in that the number of advanced courses constitute a barrier to recruitment to working life, and that progression through upper secondary education has deteriorated. In addition, international studies concerning Norwegian pupil's (average) learning outcomes, and problems in recruiting students in science subjects, have paved the way for further adjustments of this level of education. Among the policy measures that are in the process of being implemented and of relevance to higher education are (Ministry of Education and Research 2004b):

- The development of new syllabuses for all study programmes and courses. New textbooks and teaching materials will be developed
- More mathematics will be compulsory in the academic areas of study
- A proposal has been made that able pupils at the upper secondary level could be allowed to take subjects or part of subjects from university level. This has not yet been decided.

8.6.2 Vocational College Education

321. As part of the work to create better linkage in the educational system, a new Act on vocational college education (ISCED 4) was approved by Parliament in 2003 (Ministry of Education and Research 2004a). The Act provides that short practical courses of training can be approved as vocational college education ("*fagskole*") through NOKUT, the accreditation agency for tertiary education. The Act formally established vocational college education as a shorter and professionally-oriented alternative to higher education. The vocational college education builds upon upper secondary education or corresponding competence, and lasts between a minimum of six months and a maximum of two years full time. The aims of this arrangement is to contribute to the growth of shorter forms of training, more flexible and more relevant to the needs of the labour market, and to give financial support to regional authorities that offer courses at technical colleges. Vocational College Education includes the following areas:

- Two year technical education
- Naval education
- Further/continuing education within health and social work
- Various religious courses ("Bible schools", etc)
- Art education (often private)
- A number of offers in ICT, marketing, etc. (mostly private)

322. A lot remains to be done, however, in clarifying the links between vocational education colleges and higher education. When entering higher education, those with vocational college qualifications must undergo an individual assessment of skills acquired if part of their competence and skills is to be recognised as being at the higher education level. Part of the problem is related to the lack of a system of credit-points in the vocational colleges, making it difficult to assess the scope and depth of education taken, and, especially, making comparability with higher education more difficult (Børing & Stensaker 2004).

323. In several European countries, qualifications frameworks are being developed to ensure better links between and within different levels of the educational system, and the Ministry of Education and Research has recently launched an inquiry into whether such a framework could be a relevant measure in the Norwegian context (Børing & Stensaker 2004).

8.6.3 Higher education and adult/continuing education

324. Though Norway in general has a highly educated population, research early in the 1990s gave rise to concerns about the level of competence, especially in knowledge-based industries, and about the potential for a sufficiently flexible and competent work-force in a rapidly changing vocational landscape. On this background, the Competence Reform was initiated by the Norwegian Parliament (*Stortinget*) in 1999, the aim of which was to establish 'a national system for documentation and appreciation of adults' non-formal and informal competence, with legitimacy in both the labour market and the educational system.' (VOX 2002:5). The purpose of this reform is to heighten the valuation and utilisation of the working population's total competence through adult and continuing education, and in that way meet the needs for competence and skills of society, of the workplace and of individuals. Several measures have been launched to reduce the structural and financial barriers to adult learning, by encouraging co-operation between employers, employees and the government. The reform is still in progress in various initiatives

and projects including the right of employees to leave of absence for education purposes, tax-deduction schemes for employers as part of the financing of continuing education, special measures to increase ICT-literacy in the adult population, and a special competence development programme (Kompetanseutviklingsprogrammet) to stimulate continuing education within industry. In addition, various information measures for those seeking continuous education have also been set up. VOX, the national institute for continuing and life-long learning is a key actor in both the implementation and surveillance of the Competence Reform. For continuing education outside higher education, a special national learning condition monitor (Lærevilkårsmonitoren) has been set up to track results and trends (Ministry of Education and Research 2003).

325. In a study on how higher education institutions have responded to the Competence Reform, Brandt (2001) disclosed a variety of strategies to meet the new reform including offering research news for professionals, providing a standardised study programme through new technology (ICT), adapting a standardised study programme to a particular target group, and introducing interdisciplinary degrees, and interdisciplinary courses for new markets, and tailor-made courses on commission. A central finding in the study was that continuing education was perceived as an activity that institutions linked to their standardised education and research activities, and that non-credit advanced research courses offered to scientists and engineers in industry was an important activity related to continuing education, but rarely reported to the outside world. In a related study on the volume of continuing education in Norwegian universities in the period between 1998-2002, a decrease in the number of participants in continuing and life-long learning related activities from 31 000 in 1998 to about 22 500 participants in 2002 was disclosed (Brandt 2003, see also Hagen & Skule 2004). A possible explanation can relate to a general downward economic trend in Norway during these years, holding back the interest industry and business had in continuing education for their employees. As part of this development, there was in the same period a slight decrease in the share of continuing education that was fully paid for by the participants. Concerning modes of delivery, distance education and ICT-related schemes increased in popularity during this period, but a typical course will still combine distance education elements with some face-to-face teaching or seminars (Brandt 2003).

326. To further utilise ICT in adult/continuing education, Norway Opening Universities was established in 2004 by the Ministry of Education and Research. The new organization was established by merging the Norwegian Agency for Flexible Learning in Higher Education (SOFF) and the Norwegian University Network for Lifelong Learning (Norgesuniversitetet). Norway Opening Universities' main tasks are to stimulate the development of lifelong and flexible learning in Norwegian higher education; generate and share knowledge; and be a policy advisor for the Ministry in this field.

327. In principle, the Competence Reform and the recent Quality Reform of higher education are intended to be mutually supportive. For example, the modularisation of higher education study programmes as part of the Quality Reform can establish stronger links between higher education and continuing education by increasing the number of "access"-points to higher education for those with an interest in continuing education.

8.6.4 Access to higher education for people with insufficient formal qualifications

328. To allow people with insufficient formal but good and relevant 'real' qualifications for a particular programme to take part in higher education, the rules of

access to higher education were changed as part of the Competence Reform. The legal framework was amended so that applicants who are at least 25 years of age and do not need to meet the general matriculation standard, can be accepted on the basis of an individual assessment of their '*realkompetanse*'[36] (see also chapters 2.8 and 6.4). Pertaining to higher education, thus, this reform entails a considerable potential for an efficiency increase, in the fact that well qualified adults, without completed secondary school, no longer have to 'waste time' in secondary education. The new law came into effect from the academic year 2001-2002. The individual institutions will determine whether applicants are sufficiently qualified to study the courses applied for. If the applicant is accepted and passes an examination for a course lasting a minimum of one year, this will in turn provide the general entrance qualifications. '*Realkompetanse*' may also allow a shortening of the study period required, or exemption from some examinations or tests.

329. Recent studies of the reform have shown that in general, the reform works according to the lawmakers' intentions in providing improved opportunities for new groups of students (Opheim & Helland 2004). Hagen & Skule (2004) have found that the number of students above 30 years of age has increased rapidly during the latter years. Hence, HEIs have taken the reform very seriously, and have laid down a considerable amount of work in adapting to it. Most institutions have also worked out detailed guidelines for the assessment of '*realkompetanse*', and they put down a considerable amount of working hours in the processing of applications. However, Opheim and Helland (2004) also disclosed some important challenges following the implementation of the reform.

330. Firstly, the study finds significant differences between different institutions with regards to the requirements for being assessed as qualified. Hence, there are variations in how the different tertiary education institutions assess the '*realkompetanse*' applicants. In general, it is more likely that these students are enrolled at university colleges, and in shorter and more applied study programmes such as teacher training, nursing, etc. Secondly, the study also reveals that not all elements in the reform are implemented. For example, the institutions have not instituted any arrangements to give exemption from parts of a study based on relevant '*realkompetanse*'. The academic quality of the applicants with '*realkompetanse*' is a third challenge ensuing from this reform. The study indicates that the academic standards of the applicants have decreased already during the few years after the reform was implemented. Even if knowledge on this aspect is very limited, this may pose a problem in the long run. If it turns out that the academic standards of the '*real-kompetanse*' students are considerably lower than those of regular students, the support of the reform may be crumbling, however strong it is today (Opheim and Helland 2004).

8.6.5 Admission to and information about higher education

331. The admission criteria to Norwegian higher education are set as regulations to the 1995 Universities and Colleges Act, revised in 2002. The normal requirement for access to higher education is the completion of a 3-year study programme in general, i.e. academic, subjects at the upper secondary level, or in some of the areas of study in technical and vocational subjects. Pupils at upper secondary level choose one from a selection of fifteen foundation courses for their first year, and specialized advanced courses I and II for the following years. Three of the available foundation courses prepare for higher education directly, meeting the academic entrance requirements,

[36] The Norwegian term '*realkompetanse*' includes the total sum of a person's formal, non-formal and informal qualifications.

while the others are vocational. Pupils from vocational areas of study as a rule meet the higher education entrance requirements after the completion of a supplementary general study course. The general matriculation standard sets minimum requirements that include the following components:

- Successful completion of three years of upper secondary education including foundation course, advanced courses I and II (regardless of area of study), or possession of a recognised vocational qualification or trade certificate.

- Included in, or in addition to, the above mentioned criteria, it is necessary to have successfully completed upper secondary studies corresponding to a specific level of attainment, determined in periods (lessons) per week, within the following general subject areas: Norwegian (14); English (5); history (4) and social studies (2); mathematics (5); natural sciences (5).

332. In addition, applicants aged 23 and above may be admitted on the basis of five years of work experience, or a combination of work experience and education, provided they satisfy qualifications mentioned in the general subject areas listed above.

333. For admission to some study programmes, specific subjects or work experience are needed in addition to the general requirements.

334. Applications to undergraduate studies at public higher education institutions of in Norway are processed by a centralised application processing centre called Universities and Colleges Admission Service (UCAS – "Samordna opptak" in Norwegian). UCAS coordinates the admission and information to undergraduate level studies at all universities, university colleges, university colleges, and some private colleges in Norway, annually around 80 000 applicants to 48 institutions or 1 100 different courses. The Universities and Colleges Admission Service also provides advice and (internet-based) information on higher education for the college and university sector.

335. Applicants send only one application form to UCAS, containing the names of a maximum of 10 different courses or programmes, in order of priority. The forms are registered digitally via an optical registration system. UCAS then appoints institutions to evaluate each applicant. In a letter, applicants are asked to forward all relevant documents to these institutions. If the applicant has applied for courses or programmes at different institutions, with similar admission requirements, one institution will do the assessment on behalf of the others. When the institutions have evaluate all applications allotted to them, they send the results to UCAS, via the Internet. UCAS then processes the incoming data, and informs applicants about the outcome, offering a maximum of one study entry to each applicant. This will normally be the highest ranked study on the application form, if entry requirements (and competitive qualifications) are met by the applicant. The applicant is obliged to return the letter to UCAS, indicating whether or not he/she accepts the offer within a certain date. If based on these answers, an institution decides that the number of entry offers for a course has not filled the number of places available students may be recruited from waiting lists. The Universities and Colleges Admission Service is professionally administered by a board appointed by the Ministry of Education and Research, and organised as a unit at the University of Oslo.

336. Admission information on the Internet or in the special and annually revised Handbook for Applicants (Søkerhandboka), does not automatically apply to foreign applicants without a permanent or renewable residence permit in Norway. Most higher education institutions offer specifically designed programmes for foreign

students, and, as part of increasing internationalisation of Norwegian higher education, more and more study programmes are being offered in English (Frølich & Stensaker 2004).

337. In general, foreign applicants must meet the same minimum requirements for entrance to higher education as Norwegians. A list specified by country of what this means in more practical terms, called the GSU list, is available at NOKUT's website. (See http://www.nokut.no/sw6786.asp). Applicants with qualifications from abroad must also fulfil language requirements in Norwegian and English.

Chapter 9 Assuring and improving the quality of tertiary education

9.1 Introduction

338. In this chapter the mechanisms and policies for assuring the quality of tertiary education is described. The main points are related to the building up of a national system for quality assurance of higher education through the establishment of a system of institutional (and programme) accreditation and audit (of institutional quality assurance systems), and the establishment of NOKUT – a national independent agency responsible for these tasks. NOKUT also has responsibility for institutions under the Act for Vocational College Education. The Research Council of Norway (RCN) has a general responsibility for carrying out evaluations of publicly founded research in Norway.

339. The establishment of the new quality assurance system for higher education is related both to Norwegian commitments in the Bologna Process, and to domestic needs of ensuring and improving the quality of educational provision. However, data indicate that (first year) students are in general rather satisfied with the academic quality in Norwegian higher education, and that there are few perceived differences between HEIs concerning the quality of the education provided to students.

9.2 Quality control of educational provision and research

340. Traditionally, Norway has put limited resources into quality assurance of higher education and higher education programmes, except for the mandatory and systematic use of external examiners at *all* examinations until the Quality Reform in 2003. The authorisation of new study programmes at state higher education institutions was traditionally taken care of by the Ministry of Education and Research, and could until the early 1990s be characterised as an administrative procedure. After the introduction of the Act on private higher education in 1986, recognition of study programmes in the private sector was introduced, and these were more detailed and control-oriented, including the use of expert panels. Norway was during the 1990s also quite modest concerning implementing other systems for quality assurance, even if various pilot projects in the field of evaluation were initiated (Stensaker 1997). Thus, the political attention towards quality assurance of higher education must be characterised as limited during the 1990s. The Quality Reform has contributed to change this picture considerably.

341. As part of the reform, a new independent accreditation agency NOKUT (Norwegian Agency for Quality Assurance in Education) was established by law as from January 2003. Its activities are rather clearly specified in the relevant regulation to the law (Ministry of Education and Research 2002). The establishment of NOKUT also replaced the former Network Norway Council. The latter had closer ties to the Ministry, i.e. it was instructed by the Ministry, and had multiple tasks, including giving the Ministry of Education and Research advice in strategic issues and taking care of various evaluations in Norwegian higher education. The new body is, by law and an annual lump-sum funding, secured a more independent status. The Ministry of Education and Research cannot instruct NOKUT in its accreditation and quality assurance-related activities in other ways than by law or formal regulations. Still, the Ministry has a final say in certain issues where NOKUT is involved (creating new universities/change the status of current institutions from e.g. university college to

university, or from being a specialized university institution into being a university, and as concerns the recognition of international higher education qualifications). NOKUT has a staff of around thirty, and is organised in three departments. One department for evaluation of institutional quality assurance systems, one department for accreditation of HEIs and programmes, and one department for recognition of foreign higher education and for giving advice to institutions regarding international credit transfer and recognition. The latter is the Norwegian ENIC/NARIC and also the information unit for the Council of Europe and UNESCO Lisbon Recognition Convention.

342. In addition, NOKUT also accredits courses and programmes that are regulated by the Act on Vocational College Education, and hence has an overall responsibility for quality assurance in the whole tertiary education sector. The vocational colleges are obliged to have their courses approved by NOKUT in order to have the right to name their courses vocational college education. The courses must be of a duration of between 6 months and 2 years after successful completion of upper secondary education. It is also possible to be admitted on the basis of relevant formal, non-formal and informal competencies (*"realkompetanse"*). At present, only the technical vocational colleges (*teknisk fagskole*) are approved by NOKUT. They offer theoretical education based on vocational upper secondary education.

343. Vocational college courses approved by NOKUT are entitled to apply for public funding, but this is not automatically granted. At present, only the technical colleges operated by the counties, are publicly funded.

344. In higher education, the procedure for recognition of a given study programme is twofold: First, an administrative review is conducted assessing the infrastructural framework that supports the study programme (buildings, ICT, etc). Second, a peer review process is initiated assessing "input" quality, "process" quality and "output" quality (see point 8.6.2 for a more detailed description of vocational college education).

345. Concerning methods to assure the quality in higher education, more formal accreditation schemes have been introduced along with the establishment of NOKUT: Accreditation of HEIs according to institutional status and of study programmes at different levels have been established. The main function of the system of institutional accreditation is that HEIs obtain certain rights for the self-accreditation of programmes depending on the formal status. Hence, an institution accredited as a university is given the right to established all kinds of study programmes including those at the doctoral level. Private higher education providers can apply for the same status categories as the public institutions and may obtain the same rights. HEIs without institutional accreditation must apply for a separate programme accreditation for every new study programme offered. Institutional accreditation is given without any set date for re-accreditation. Hence, it is in the hands of the HEIs to apply for a change in institutional status.

346. An important premise for the accreditation schemes introduced is the demand that every higher education institution, both public and private, need to have an implemented and functional quality assurance system covering all higher education programmes offered. This demand was introduced along with the establishment of NOKUT, and every Norwegian higher education institution has been instructed to have a system established as per the first of January 2004 (Ministry of Education and Research 2002). The consequence of not having such a system, or that the existing system does not cover the minimum standards set, is not that an institution will loose institutional status, or the accreditation for established studies, but that the institution

is not allowed to have new study programmes established. In other words, not having an institutional quality assurance system restricts the institution's possibilities to expand and move into new fields of study. The procedure checking up on an institutional quality assurance system is labelled "audit", even if the procedure in practice comes close to the accreditation procedure.

347. The procedures associated with institutional audits rely on institutional self-evaluation followed by a peer review process. In the self-evaluation, the voice of the students is sought incorporated in the procedure by highlighting the need for conducting surveys among the students. Student representation is also visible in the peer review process. Normally, students are represented in the peer review team as ordinary members with full rights and obligations. Usually the peer review team also includes foreign academics, mostly from Sweden or Denmark, as this eliminates any problems concerning language. In this way, international comparability is also sought obtained.

348. In the funding system, higher education institutions are rewarded for the number of credit points students obtain. Given the incentive this might create to lower the quality level, an important function of the national quality assurance system is to check that academic standards are maintained and that the quality of the educational provision is not jeopardised.

349. Concerning the evaluation of research, this is a responsibility of, and key area for, the Research Council of Norway (RCN). RCN traditionally funds several research programmes with relevance for higher education as part of their ordinary programme portfolio. At present, the research programme "Competence, Education and Learning" (KUL) supports several ongoing research projects on higher education, and the evaluation of the Quality Reform is also linked to this research programme. Interesting information is also available from the now completed research programme "Knowledge Development within the Professions and in Professional Practice" (KUPP). RCN has in recent years also established a prize for high accomplishments in research (the MØBIUS-prize), a measure intended to raise the overall awareness of and commitment to excellence in Norwegian research.

350. The current evaluation strategy of RCN emphasises that the objectives of the research evaluations conducted are:

- to provide insight into the current status of and trends in Norwegian research
- to improve the quality of decisions in respect of research policy, strategy and operations
- to ensure that all levels of the research systems, including the Research Councils's own governing bodies and administration, consider the results of the evaluations
- to link the Research Council in international cooperation on R&D evaluation
- to safeguard the total confidence placed in the Research Council's objectivity and independence in respect of evaluation activities

351. The evaluations implemented to reach these objectives can be separated into two broad types: specialized evaluations where a R&D field is evaluated on the national level (e.g. in political science, education, informatics, etc), and more strategic evaluations conducted in relation to political developments, to support decision-making or to investigate the outcomes of RCN's own research programmes. A recent

meta-evaluation of some of the specialized evaluations conducted by RCN shows that international panels judge the quality of the research conducted within the field as fairly good, with very good quality in a few fields (e.g. in mathematics, information science, chemistry) (Brofoss 2004).

9.3 Quality improvement in teaching and learning

352. The policy during the last decade has been fairly consistent concerning the responsibility for quality improvement of higher education. This is a responsibility that has explicitly been given to the higher education institutions themselves (St.meld. 40 1990-91, St.meld. 27 2000-2001). However, by the establishment of NOKUT and the requirement that all Norwegian HEIs should have their own system of quality assurance, some external pressure to focus more strongly on the improvement dimension of quality assurance has been created. This is particularly visible in the criteria listed by NOKUT (2003) concerning the evaluation of an institutional quality system. Here is it stated that a quality system should comprise:

- How work related to quality is linked to the strategic objectives of the institution
- Defined objectives for the work related to quality
- How work related to quality is linked to management at all levels
- How work related to quality is proven to be a systematic activity that includes staff participation
- Collection and analysis of data and information from evaluations enabling the accumulation of knowledge on the institutional status concerning the quality of the educational provision
- Assessment of whether objectives related to quality have been met
- Utilisation of results from work related to quality as basis for decision-making aimed at improvements
- Clarifications as to how work related to quality contribute to optimising the use of available human, financial and administrative resources
- Active students participation in the work related to quality
- An annual report to the Board of the institution in which an overall assessment is made about the status of the work related to quality, and indications about the quality of the educational provision

353. In the criteria developed by NOKUT (2003), it is further stated that a quality assurance system must contain routines to ensure the quality of new programmes. It is also stated that the quality assurance system is the responsibility of the board and the leadership of the institution. No formal requests concerning what an institutional quality assurance system should look like are specified by NOKUT, although the criteria mentioned above may trigger the development of certain organisational routines and structures.

354. The Ministry of Education and Research (2002) has required that an evaluation of the institutional quality assurance system must take place at least every

six years, but that the prime objective of the evaluation of the quality assurance systems is not only control but to develop well-functioning systems in which dialogue and frequent communication between external experts and the institution should be a vital characteristic. The external experts are expected to specify in what area the institutional quality assurance system is adequate and up to standards, and where the system needs improvements. The Ministry has also made it clear that the institutions are expected to establish routines that secure continuous improvements of the quality system (Ministry of Education and Research 2002).

355. Even if establishing institutional quality assurance systems is a relatively new element in Norwegian higher education, various institutional practices concerning the evaluation of teaching and learning have been conducted for years. Student evaluation of teaching is a regular feature in Norwegian higher education, but the results from these processes have seldom been analysed and informed decision-making at the institutional level even if institutional plans to "improve and secure quality" is a very common feature in Norwegian HEIs (Handal et al 1999). In the last few years, quality issues have been on the agenda for the regular meetings between each institution and the Ministry, and the Ministry has for years also requested annual reports about the "production" of and activity level in the higher education institutions. However, these reports are not compared to indicate the status or progress on the national level, and in this respect they constitute no national monitoring system of the quality of teaching and learning. Within the field of ICT, some national funds have been made available to higher education institutions that have shown an interest in developing new ICT-based teaching and learning methods, but this funding have been explicitly linked to the utilisation of new technology.

9.4 Stakeholders in quality assurance

356. The national accreditation system in Norway serves several purposes. One of the obvious ones is related to the Bologna Process, and the need for developing a national system of quality assurance following this process. However, even if European and other international developments in the field of quality assurance are important for understanding the new accreditation system in Norway, there is also a national background for this establishment. In particular, a growing interest in evaluation and performance of the higher education system can be detected during the 1990s, and partly as a result of the student influx, leading to the development of the now former Norway Network Council in 1998. The increased number of students exerted a considerable pressure on the funding system, resulting in a growing interest in student efficiency and academic quality. In the late 1990s, a Royal Commission for higher education (the "Mjøs-Commission") was appointed. The commission should, among other things, evaluate the consequences of the increased number of students and make suggestions on how to adjust the system accordingly. In its main report (Green Paper NOU 2000:14), the commission argued that more emphasis should be placed on institutional competition and output rewards in order to handle the growing number of students and to increase both the efficiency and academic quality in education and research..

357. One of the proposals of the commission was to establish a new accreditation body that, with an independent status and staff specialized in quality evaluations and assessments, could act as a rigid quality controller of such a new system. An underlying premise for this proposal was also the intention to give public and private higher education institutions more equal conditions. In the 1990s, private higher education, but also university colleges, needed to apply to the Ministry of Education

and Research for every new programme offered, and such approval could in certain (difficult) cases take up to two years to obtain. Private higher education institutions complained that this situation represented a huge advantage for the public sector that did not need such an approval for all new programmes developed (see e.g. Stensaker 2000: 98). The new accreditation system may indeed contribute to change this situation since both public and private higher education institutions are scrutinised according to the same criteria. Hence, a more competitive situation between public and private providers has been created.

358. Furthermore, the establishment of an independent quality assurance agency, should ensure a separation of quality considerations from the political agenda.

359. An important function of the new accreditation scheme is also to establish a procedure that can handle the tendency towards academic drift in the higher education system. In the latter years, and in addition to those already being given new institutional status, some of the university colleges in Norway, some of the specialized university institutions, and even some private institutions have indicated that university status are of interest due to, among other things, the possibilities this might create concerning the self-accreditation of new programmes of study. The criteria for obtaining this status are defined in the new accreditation scheme, the most important ones being the number and levels of programmes of study offered. At present, the existence of at least four ph.d. and at least five master programmes are key criteria in this respect.

360. Both the public/private dimension, the need to professionalize quality considerations, the tendency concerning "academic drift", and the growing interest for accreditation within Europe, suggest that an important recipient of information from the new quality assurance system in Norway are the political authorities, and in particular the Ministry of Education and Research. Students and employers are recognised as important stakeholders in the new national quality assurance system as well, but until now, the information gained from the system at the national level has not been distributed to them in an easily accessible way.

361. However, as in many other OECD-countries, there are also other stakeholders interested in quality issues and which perform their own "evaluations" of higher education. For example, four newspapers have for the last five years cooperated on interviewing a substantial number of first-year students to get information on their perception along a number of dimensions of the programme they recently have been enrolled in, and the institution to which they are affiliated. The results are published, and the data have also been utilised for research purposes (see e.g. Wiers-Jenssen and Aamodt 2002, Wiers-Jenssen, Stensaker & Grøgaard 2002).

9.5 Expansion, efficiency and quality

362. Like many other OECD-countries, Norway experienced a huge influx of students in higher education in the early 1990s, with the highest number of new applicants in 1994. Towards the end of the 1990s, the number of new applicants dropped somewhat, only to increase slightly in the last five years. The present trend is that on average, more than 50 per cent of a given age cohort will enter higher education within a few years after the completion of secondary education.

363. After entering higher education, a number of students tend to have some delay in their studies, i.e. they do not graduate according to the formally prescribed study schedule. Studies have shown that this tendency in general is caused by students taking a pause from their studies (to travel or work or do military service etc) before

re-entering higher education at a later stage (Berg 1997, Aamodt 2001). The organisation of study programmes also affect study persistence. Hence, the traditional open studies within the humanities and the social sciences in general seem to give a lower probability for students graduating on time than, for example, the more vocationally-oriented studies within engineering, nursing, medicine, health, etc. (Aamodt 2001). Since these studies often are offered at different types of institutions, i.e. humanities in universities while engineering and nursing at university colleges, one can historically detect a difference in the time it takes to complete a programme of study in these two types of institutions.

364. Research has also indicated other differences and tendencies in study persistence, drop-out and completion in Norwegian higher education in the last decade: First, recruitment to higher education (but not upper-secondary education) is still filtered by the student's socio-economic background (Hansen 1999), but this factor hardly affects drop-out rates (Aamodt 2001, Børing 2004). Second, disciplinary differences in general account for more of the variation in study persistence and time to completion that external factors such as part-time work, etc (Teigen 1997, Berg 1997, Wiers-Jenssen & Aamodt 2002). Third, men have higher drop-out rates in universities than women (Aamodt 2001), but this difference is not observable in university colleges (Børing 2004). Forth, universities "loose" more students to university colleges than the other way around (Aamodt 2001). Fifth, a large proportion of students that drop out are not "lost", but return to higher education after a break (Aamodt 2001). The unfortunate situation here is that older students have a significantly higher drop-out rate than younger ones (Børing 2004). Some of these trends can be easily explained: A higher drop-out rate for men correlates partly with the fact that in Norway young men have to do military service, and military service also partially explains why students "take a break" in their studies. Higher drop-out rates in universities can partly be explained by their former way of organising programmes of study (consisting of half-year, one-year and one-and-a-half-year units that could be combined quite freely by students according to certain rules, to make up the –generally 4-year – 'cand.mag.' degree). Higher drop-out rate related to age can also be partly explained by the other obligations students may have when getting older (i.e. family, children, their inclusion in the labour market) (see also chapter 6).

365. The recently implemented Quality Reform is intended to change the picture of study persistence, drop-out and graduation rates. Due to the new modularisation of traditionally "loosely" organised university studies, one can, for example, hypothesise a general improvement in the students' time to complete a given study at this type of institution. At present, there is some evidence that the numbers of credit points taken by students each semester are increasing. However, more comprehensive research will be conducted on this issue as part of the ongoing evaluation of the Quality Reform.

366. One could argue that persistence, drop-out rates and time to completion might be correlated to the quality of the education provided. Although there exist some data which could give some indication on this issue, no studies have so far analysed this relationship directly. Wiers-Jenssen & Aamodt (2002) have analysed the degree of student satisfaction for first year students in higher education using extensive quantitative data, and have shown that in general, university students are less satisfied than students at university colleges. This finding is also strongly correlated to organisational size, meaning that larger institutions as a rule have less satisfied students than the smaller ones. Since the universities are the largest institutions, size is an explanatory factor.

367. However, the general result from the analysis of more than 12 000 first-year students is that two out of three students in Norwegian higher education are “very satisfied” with academic quality in Norwegian higher education (Wiers-Jenssen & Aamodt 2002). Hence, the study indicates a general high level of satisfaction with academic quality, and relatively little perceived institutional difference concerning the quality of the education provided to students.

368. Still, at present there is a lack of reliable data that address issues concerning the learning outcome of students in Norwegian tertiary education. More emphasis has been given to this issue in recent years, and the introduction of the Diploma Supplement and the present interest in developing a national framework for qualifications (Børing & Stensaker 2004) are some of the measures that signal the strong political interest in this area. Concerning the employers’ views on graduates, there are no national systematic surveys addressing this issue.

369. Another issue relating to the expansion of the higher education system in Norway is the maintenance of high academic quality. A growing number of students, and a more output oriented funding system, might under certain conditions put the level for passing examinations under pressure. However, the quality assurance system, both at institutional and national level, should guarantee quality of a stable high level. In addition, studies have been initiated to shred more light on the institutions’ mechanisms in this respect.

Chapter 10 Internationalisation and globalisation of tertiary education

10.1 Introduction

370. In this chapter, the impact that internationalisation is having upon policies for the higher education system is described. The main message coming out of the chapter is that Norwegian higher education policy increasingly emphasises the importance of seeing the national higher education system in its international context. In the recently implemented Quality Reform, internationalisation is seen as one of the key areas to enhance the quality of higher education and research in Norway, and as vital in realising Norway's commitment to the Bologna Process and to the creation of a European Research Area (ERA).

371. Hence, traditional internationalisation activities like (individual) student and staff mobility are increasingly being enriched by policy initiatives intended to stimulate more formalised and organised education and research cooperation (especially within Europe), strategic initiatives by Norwegian HEIs, and by staff exchange schemes both within as well as beyond Europe.

372. Norwegian HEIs are increasingly developing strategies for internationalisation, related to issues like recruitment, and the development of their research portfolios. In addition, North – South cooperation, which has a long tradition in Norway, is still important for many Norwegian HEIs, for the Ministry of Education and Research, and for the Norwegian Agency for Development Cooperation (NORAD).

10.2 Changes in the rationale for internationalisation

373. Internationalisation is far from a novelty in Norwegian higher education. Being a small country, positioned in a geographical periphery of Europe, Norway has a long tradition of linking up with the international higher education community, especially with respect to sending students abroad for gaining qualifications and obtaining new knowledge (see also point 10.5).

374. With the Quality Reform in 2001 (St.meld. 27 2000-2001), the emphasis on quality has been strongly underlined as the underlying rationale for internationalisation. In this reform, internationalisation has been re-framed as a major instrument for the general objective of improving the quality of higher education, in both its teaching and learning aspects and in its research function. Internationalisation is emphasised both as an aim in itself and as a means to ensure quality in higher education and research in a much broader sense. The quality of national higher education and research should be measured by international standards, and not with reference to national standards alone. The reform is also an adaptation of elements in the Bologna Process, introducing the bachelor-master-phd (3+2+3) structure, a new grading system (A-F) similar to the ECTS, and an increased modularisation of study programmes in Norway. Student mobility, with an emphasis on exchanges through European and other international education programmes as well as through formal institutional agreements, is still considered as a key element (see also point 10.4)

375. The establishment of two new international research prizes at Nobel level in the last couple of years (the Abel prize in mathematics [2002], and the Holberg prize in the humanities and the social sciences [2004]), the emphasis on Norwegian participation in the European Framework programmes including the establishment of a Norwegian research office in Brussels, as well as initiatives within the Nordic region through the establishment of a new body (Nordforsk) responsible for coordinating Nordic research cooperation, is an indication that the participation of Norwegian higher education institutions in international research cooperation is also very high on the political agenda.

10.3 Internationalisation of higher education in Norway – an overview

376. Internationalisation of higher education in Norway is multifaceted. However, a Nordic, a European, and a global dimension can be identified.

377. *Nordic* co-operation has traditionally been a key element in the internationalisation of Norwegian higher education (Sivertsen & Smeby 2001), and the Nordic Council of Ministers has recently agreed upon an objective targeting the Nordic region as a world-leading region for research and innovation within 2010 (NORIA). Nordic cooperation in higher education has traditionally centred on academic staff and student mobility mainly through the NORDPLUS programme (established in 1988), and legal agreements that are designed to reduce the formal barriers to student and staff mobility. In Norway, student mobility within this programme reached its peak in 1998 (approx. 1000 students), stabilising to approx. 700 students in the last five years. A regional network of the national quality assurance and accreditation agencies has also been created to work for improved mutual recognition of quality assurance procedures in the Nordic region. Neighbourhood policies, aimed at cooperation between the Nordic countries and the Baltic states and North-western Russia, are of increasing importance for Nordic cooperation overall, in education and research most notable in the Nordplus Neighbour Programme.

378. During the last decade, more regional cooperation schemes have also been developed, including in the Euro-Barents region and beyond (North2North is another cooperation scheme involving countries in the Northern hemisphere participating in the University of the Arctic, i.e. the Nordic countries, Russia, Canada, USA (Alaska)). This cooperation comprises both research and education. There are also some cooperation projects through the Council of the Baltic Sea States.

379. European cooperation is an increasingly important channel for the internationalisation of Norwegian higher education, due to the Norwegian commitment to the Bologna Process, and to the importance of the participation in EU programmes and processes.

380. Norwegian cooperation with the EU is based on the Agreement on the European Economic Area[37]. Through the EEA Agreement, Norway participates fully in EU research co-operation and in the EU education and training programmes (Socrates, Leonardo da Vinci, Erasmus Mundus, the E-learning programme, Europass). The participation in these education, training and research programmes is considered very valuable by Norwegian authorities, who are also committed to the Lisbon Process, including the establishment of a European Research Area (ERA). For these reasons, and to follow up the Norwegian government's European Policy

[37] The EEA Agreement is between the EU Member States, Iceland, Liechtenstein and Norway.

Platform, the Ministry of Education and Research adopted an EU Strategy in 2002, up-dated in 2004. The main message from the document is that the Norwegian Ministry of Education and Research will step up its involvement in ongoing EU programmes with particular attention related to:

- active, broad-based participation in the European learning process;
- contribution to quality enhancement, internationalisation and network-building in European education and research;
- taking initiatives in areas in which Norway has special expertise, has achieved results and has gained experience of particular interest;
- taking advantage of European collaboration on education and research with a view to promoting better quality and innovation at the national level and to ensuring good co-ordination between the national and European levels;
- intensifying contact with the EU's new member states, inter alia, through the new EEA EFTA financial mechanism;

381. The number of outgoing Norwegian Erasmus students peaked in the mid-1990s. There used to be an imbalance between outgoing and incoming students in the programme with too few incoming students, but since 2001-2002, there is a majority of incoming students, see Table 10.3. Evaluations of Norwegian participation in the Socrates and Leonardo da Vinci programmes have disclosed several concerns including:

- a lack of study programmes available in English (Wiers-Jenssen & Smeby 2001: 69)
- weak administrative and organisational structures at the institutional level, resulting in a lack of continuity and competence in handling the exchange programmes (Wiers-Jenssen & Smeby 2001: 70)

382. However, a recent study on the internationalisation of Norwegian HEIs has concluded that the administrative and organisational structures within HEIs are in the process of being strengthened and that new study programmes in English are being offered (Frølich & Stensaker 2004). The Erasmus programme seems to dominate the agenda, while higher education participation in the Leonardo da Vinci programme seem fairly absent (Vabø & Smeby 2003: 30). The teacher exchange part of the Erasmus programme has gained popularity in the last couple of years. Around 1 100 Norwegian students per year participate in the Erasmus programme, in a wide variety of disciplines. Spain and France are the most popular destinations.

383. The Norwegian financial contribution to and gain from the EU research programmes is substantial. A recent evaluation of the Norwegian participation in the 5th framework programme concluded that Norway's participation was reasonably successful, with an estimated return on investments of 0.9. In other words, Norway received almost as much in return (248 mill Euro) as it put into the programme (274 mill Euro). However, the report indicates that many improvements could be made to create synergies between the framework programme and national and institutional R&D-initiatives (NIFU STEP, Technopolis 2004). RCN continuously works to stimulate and support Norwegian participation in ongoing and forthcoming EU research programmes through e.g. the establishment of financial support for those intending to apply to EU-funded research programmes, and the creation of networks

and information offices. As an attempt to "internationalise" at home, RCN is in the process of opening up some of its research programmes to foreign applicants.

384. *Outside of the EU, European cooperation* is dominated by the Bologna Process, which is referred to throughout this report because of its importance for the national Quality Reform. This is particularly the case in the period 2003-2005, when Norway has the vice-chairmanship of the process, and the secretariat of the (European) Bologna Board and Follow-up Group is located at the Norwegian Ministry of Education and Research as part of the preparations for the Bergen Summit 19-20 May 2005.

385. A *global dimension* concerning the internationalisation of Norwegian higher education can also be identified. Traditionally, this has been visualised through quite generous support to developing countries over the last 30-40 years, especially concerning cooperation in higher education and scholarship schemes.

386. Even if higher education has been the key area for cooperation globally, research cooperation has been increasingly emphasised during the past ten years. Recently, the Ministry of Education and Research launched a strategy to improve utilisation of bilateral agreements concerning research cooperation, and has as a first step launched initiatives to enhance research and technology cooperation between Norway and USA and Canada. The global dimension is also visible within the educational area, and especially related to the commitment shown by Norwegian higher education institutions with respect to North-South cooperation (SIU 2001).

387. The Norwegian Centre for International Cooperation in Higher Education (SIU) promotes international cooperation in education and research, and particularly in higher education. SIU was established as a government agency under the Ministry of Education and Research as of 1 January 2004, based on the Centre for International University Cooperation, created in 1991 by the Norwegian Council of Universities. SIU´s mission is to manage international education and research programmes, with a focus on programmes in higher education, to profile Norway as a country of study and research towards the outside world, to participate in, and/or coordinate, national information measures of relevance for the internationalisation of higher education, and to provide training measures, as well as advice, studies and other services to promote the internationalisation of higher education. The Centre is commissioned by several national and international public organisations to administer programmes within all levels of education. Programme management constitutes the biggest part of SIU's activities, and the programmes cover the whole education sector, from kindergarten to higher and further education. Geographically, they target the Nordic countries, Europe, Sub-Saharan Africa, South-East Asia, Central America and the Palestinian Territories.

388. Given the emphasis on North-South co-operation, and the geographic and linguistic situation of Norway, one might expect a notable impact of the "new global trade". As it is, globalization is primarily a topic of debate and has to a lesser extent influenced the choices of the many Norwegians independently seeking a full degree abroad. At the political level, Norway has chosen a fairly active role in the GATS negotiations as regards education, while some of the HEIs, students and staff have expressed reservations.

389. Norway was very early in making GATS concessions for higher and adult education – almost full market access for foreign education providers in Norway was granted in 1995 – but has at the same time warned against the potential negative effects of unbridled globalization. Following a resolution at the UNESCO General Conference in November 2003, initiated by Norway, UNESCO and OECD have

assumed a leading role. Their joint working group, chaired by Norway, is about to finalize (spring 2005) *Guidelines on Quality provision in cross-border higher education.* The purpose of the Guidelines is both to ensure the interests of students who seek education abroad, or from abroad, and to help developing countries manage their globalized education market to their own benefit.

390. Recognition of foreign academic qualifications is a responsibility of the higher education institutions. At the national level, however, this responsibility rests with NOKUT, the national quality assurance agency, which has the national ENIC/NARIC office and the information unit for the Council of Europe and UNESCO Lisbon Recognition Convention, as well as the follow-up of the implementation of the Diploma Supplement linked to the convention. (The Diploma Supplement is compulsory at all public higher education institutions since 2002.) Applicants with foreign academic qualifications who are not interested in further studies in Norway, can get a full evaluation of their qualifications, so-called general recognition, from NOKUT (since 01.01.2003)

10.4 Recent challenges and issues in internationalisation

391. Following the establishment of a European Research Area, research is becoming increasingly integrated in international cooperation. Changes in the organisation of the EU framework programmes represent a challenge to Norwegian HEIs, not least concerning their organisational capacity to be involved and take active part in the new networks created. To identify measures to further increase Norwegian participation in EU framework programmes is of high priority.

392. To be attractive as a research partner, Norwegian R&D must be of high quality. Research evaluations conducted by RCN, and a meta-analysis of these (Brofoss 2004) have indicated that quality is varied across disciplinary areas, and there are challenges in the establishment of a higher level of quality. A white paper for research will be presented in spring 2005, in which internationalisation of research will be a central dimension.

393. How Norwegian higher education institutions are acting upon the challenges concerning internationalisation has recently been studied as a part of a large European comparative research effort (Frølich & Stensaker 2004). The study discloses that the institutions see internationalisation not only as a means to improve quality of education and research, but also as a mechanism that can be used for:

- profiling/marketing of institutions in the domestic higher education market
- increase recruitment of qualified staff and students (in disciplines and fields where the recruitment of Norwegians is low)
- stimulate and develop the research portfolio of the institutions (often as part of an ambition to increase institutional status, i.e. become a university)
- develop partnerships that can protect the institutions from domestic, but also an expected increased international, competition

394. There is much variation in how and how fast institutions are responding to the challenges of internationalisation. That being said, it must also be underlined that there are few signs of Norwegian higher education increasingly being part of the "global market". The institutional efforts concerning profiling/marketing and

developing partnerships, on the other hand indicate that higher education institutions are preparing for the future, especially with respect to anticipated increase in competition for students and resources.

10.5 Internalisation and financial support for studies abroad

395. From a mobility point of view, it is worth noting that it is a prerequisite in the Quality Reform that *all* degree programmes under the new system are designed so as to allow for an international exchange period as an integral part of the programme. Further, the increased focus on student guidance, with the introduction of Individual Student Plans containing the student's and the institution's mutual commitments, is also expected to facilitate both the students' and the institution's planning of international student mobility. Though the level is still modest, the number of students on mobility as part of their home degree who received support from the Loan Fund in fact increased by 21 per cent from 2002-03 to 2003-04. The financing model, moreover, encourages a balance in the numbers of incoming and outgoing students (see point 10.6). This policy of facilitating student exchanges as integral parts of all degree programmes, however, takes place in a context of long traditions for going abroad for the entire duration of studies.

396. The situation in Norway after World War II was characterised by serious lacks in the domestic higher education capacity in several fields. Sending students abroad to gain needed knowledge was in this period an important policy objective, and following the establishment of the State Educational Loan Fund in 1947, student loans and grants were provided to those studying abroad in fields of national interest. The US together with the UK, and partly Germany, were the most important countries of destination for Norwegian students in this period. The existence of the Fulbright-programme was also of importance with respect to establishing strong ties to the US regarding both students and academic staff.

397. In a 1984 White Paper, the need to supplement national higher education capacity was no longer seen as the major rationale for sending students abroad, and the regulations for support for studies abroad were changed so that students would be eligible for financial aid irrespective of national capacity. The reason given was *"academic quality"*, as Norwegian students would be able to take advantage of opportunities offered abroad. In this period, studying abroad meant that students were not part of a formal exchange programme concerning where to study, and that students stayed abroad for a long period, most often taking their entire education abroad. During the 1990s, there was a rapid expansion in the number of these "free movers", with numbers increasing from around 5 000 per year in the early 1990s to 15-16 000 per year a decade later (see also table 10.1 in annex). A 1997 White Paper (St.meld. nr. 19 (1996-97) "Om studier i utlandet") emphasised that Norwegian students should take higher degrees rather than bachelor's/lower degrees abroad. In addition, a special language preparation grant was introduced to facilitate studies in non-English-speaking countries.

398. From the academic year 2004-05, earlier restrictions on the disciplines and study programmes eligible for supplementary tuition fee funding were abandoned, and students are now eligible for support (up to a certain level) regardless of field of study, provided the study programme is approved by the authorities in the country. At the same time, part of the tuition fee funding is provided as loans, as opposed to grants only earlier. (For a general description of the support scheme, see point 7.9.)

399. In the Quality Reform, the emphasis on academic quality is strongly underlined. Still, there are some issues concerning student mobility and the general portability of loans and grants that constitute challenges or dilemmas in this respect. Three issues are of particular importance:

400. First, most Norwegian students abroad are full degree students and not related to any organised or formal student exchange programme. Currently, there are approx. 15 000 per year in this category who receive financial support from the State Educational Loan Fund, plus 6 328 in 2003-2004 who were on shorter studies (exchanges and placements) abroad as part of their Norwegian degree (see also tables 10.1 and 10.2 in the data annex). It has been perceived as a problem that there is little or no state or institutional control concerning the quality of the educational provision for the majority of Norwegian students abroad (i.e. those on full degrees). Therefore, it is an aim to increase the number of students on formal exchanges.

401. Second, the Ministry of Education and Research would like to have more Norwegian students abroad at the (post-)graduate level rather than at the undergraduate level. The change in the student financing system implemented from 2004-05 is aimed at stimulating students on higher degrees and on exchanges and placements abroad (see also point 7.9).

402. Third, there has been some debate concerning the cumulative effect of the preferences and the choices made by individual Norwegian students when going abroad. During the last couple of years, there has been a remarkable change in student destinations. The impact of the global market on the Norwegian student body seems to have changed the pattern of mobility. The proportion of Norwegian students studying in the U.S. has declined from 27 per cent of all Norwegian students abroad in 1993, to seven per cent in 2004. During the latter half of the 1990s, the number of students travelling to Australia and tailor-made education programmes in Central and Eastern Europe skyrocketed[38]. Hungary, Poland and the Czech Republic have had clear increases in the number of Norwegian students during the last years. This is mainly due to special medical or veterinary programmes for foreigners that are offered in English or German, and is a result of the demand for studies in these fields, and the limited capacity in Norwegian institutions (Wiers-Jenssen 1999:21).

403. The combined practices of the individual degree students abroad have brought to the fore certain inconsistencies in the internationalisation policies, eg. the liberal support for international studies emphasising the quality dimension, combined with the lack of government control over where and at what institutions abroad this financial support is used. Especially, official policy has over the years underlined the importance of encouraging Norwegian students to go to non-English-speaking countries. Special language grants were introduced in 1997 for this reason, but they do not seem to have had the desired effect of attracting a higher share of student flows away from the "Anglo-Australian-American" direction.

404. Seen in a competitive perspective, Norwegian higher education institutions claim that the "student leakage" to foreign institutions caused by the general portability of student grants and loans represents an unfair competition, arguing that there are differences in "terms of trade", since Norwegian students have a *right* to have their tuition fees charged by foreign institutions refunded by the state[39] (though

[38] Portability of loans and grants was extended to studies outside of Europe and North America for the first time in 1993-94.

[39] From 2004-05, support for tuition fees is partly provided as loans, see point 7.9.

up to a certain level), whereas the level of funding for domestic study places are subject to budgetary limits.

405. Finally, there is one scheme that should be mentioned: Since the academic year 1994-95, it is possible for citizens of certain Central and Eastern European and developing countries to receive financial support from the State Educational Loan Fund on specific conditions in order to undertake studies in Norway. The aim of the scheme, colloquially called the "Quota Programme" because of the fixed ceiling concerning the number of students eligible for support (at present 1100 per year in all), is to help students from these countries obtain qualifications which can be of use to their home country when they return after completion of their studies.
In addition to the normal loans and grants from the State Educational Loan Fund, these students receive extra support for travel expenses to the home country. If the students who have received support under the scheme return to their home country after graduation to settle there permanently, the loans will be waived. If, on the other hand, they choose to stay on in Norway or settle in a third country, the loans will have to be repaid.

406. The Quota Programme was evaluated in 2001[40] and was considered highly successful both in relation to aid or assistance aspects, and to the internationalisation of national higher education.

10.6 Policy responses

407. As part of the new result-based budgeting system that is introduced through the Quality Reform, the budget model contains a premium (in the education quality component) that directly addresses internationalisation. The higher education institutions receive a fixed sum (NOK 5 400) per incoming and outgoing student on exchanges or placements of a duration of more than three months that are part of international exchange programmes or bi-lateral agreements with partner institutions abroad. In this way, organised institution-based student mobility is supported to stimulate Norwegian institutions to become internationally visible and attractive as study places. In practice, the greater emphasis on obtaining a positive, or at least an even balance between incoming and outgoing students has caused some grievances within many institutions, as they fear negative consequences because the mobility premium is lower than that for obtained student credits.

408. New policy initiatives are also emerging in the area of internationalisation of research (RCN 2000, 2000a, 2000b). This is particularly evident when it comes to the emphasis put on attracting foreign research staff to domestic institutions. There is a much stronger emphasis on attracting foreign academic staff to Norway. This is a rather recent addition to the policy agenda, and a specific task force/commission set up by the Research Council of Norway published their report in 2003, proposing a range of measures to increase incoming mobility of academic staff (RCN 2003). In the forthcoming white paper on research, measures to attract more foreign staff to Norway will be discussed. A more conscious profiling of Norwegian academic research communities is also advocated. The latter includes using the newly established Research Centres of Excellence to attract highly quality staff from abroad. The Ministry has also encouraged the Research Council of Norway to set aside funds that can be used by the institutions to position themselves internationally (network

[40] Rapport fra arbeidsgruppe for evaluering av støtteordningen i Statens lånekasse for utdanning for studenter fra utviklingsland og Sentral- og Øst-Europa, Oslo, 20. april 2001

building and marketing). For ph.d students, staying a period abroad as part of their doctoral programme is also strongly encouraged.

409. Furthermore, the institutions have increasingly been encouraged by the Ministry to take on a more pro-active role concerning internationalisation. That includes developing study programmes in English (or other foreign languages), the establishment of joint degrees offered in collaboration with a foreign partner, and special arrangements for staff teaching in English. For example, it has been suggested that every disciplinary area should offer an English language programme. However, the responsibility for making arrangements to support the development of such study programmes is left to the institutions themselves. All of the above objects apply to all higher education institutions, no matter size or profile. The institutions are encouraged to develop their own internationalisation strategies, and these are followed up through discussions at the annual governance meetings between the Ministry and the individual higher education institutions.

410. Finally, it should be underlined that internationalisation cannot and is not intended as means for Norwegian public colleges and universities to earn a profit in the same way as it is done especially in the English-speaking world. The public higher education institutions are not allowed to charge tuition fees for ordinary studies (exceptions are made for certain continuing education/life-long learning courses and tailor-made courses and programmes for business and industry), and this regulation has not been an object of change in the Quality Reform. On the contrary, the 2004 Bill in fact proposes to introduce a provision on the gratuity of studies. Hence, there is at present not a lot of revenue to be made from attracting students from abroad.

Chapter 11 Conclusion

11.1 Summarising policy developments 1994-2004

411. With the many reforms implemented during the last decade, tertiary education in Norway has undergone major changes. The 2004 Bill proposing a new Act for higher education (to be decided in parliament in spring 2005) is a decisive step towards the restructuring of higher education.

412. The implemented reforms are, on the one hand, a continuation of long-term policy objectives that emphasised *expansion, integration and specialisation* in Norwegian higher education. The demand for higher education has in the past decades been met with policy responses expanding the sector strongly, supported by a national interest in equality and access to education, which in turn also created some problems concerning student drop-out, and delays in graduation. The need to create a more dynamic, effective and efficient higher education system following the expansion of the 1990s, in turn triggered policy initiatives aimed at linking the various parts of the system more closely together, while also (in periods) encouraging division of labour whenever relevant.

413. The most important policy developments in tertiary education in this period were:

- a merger in the college sector, reducing the number of former regional and vocational colleges to 26 university colleges (1994)
- a common Act for public higher education, replacing former legislation relating to specific institutions, and uniting the sector of higher education through, inter alia, a common system of governance (1995).
- common qualification criteria for the appointment of academic staff across higher education (1995)
- a white paper on research (St. meld. nr. 39 (1998-1999)), signalling a strong political interest in strengthening Norwegian research in general (1999)
- the Competence Reform requiring HEIs to assess adult (25+) applicants' 'real' competencies as part of the basis for admission to higher education (2000)
- the Quality Reform (2001, see below)
- amendments to the Acts on public and private higher education (2002)
- the Act on Vocational College Education, establishing the legal basis for shorter and more professionally-oriented alternatives to higher education (2003)
- a Bill proposing a new law for all of higher education, i.e. public and private (2004)

414. Towards the end of the 1990s, the efforts aimed at responding to the expansion of the system had in turn led to an increased policy interest in the *quality of educational provision* and in *policy strategies* to reach this objective. This interest was founded on certain inefficiencies in the system, and the fact that students "did not seem to succeed", resulting, for one thing, in quite old graduates. Related to this, the interest in quality can also be linked to recommendations from an OECD review of Norwegian higher education (thematic review of the first years of higher education) in the mid 1990s, in which Norwegian higher education was criticised for being too focused on teaching rather than on student learning.

415. Concerning policy strategies, increased institutional autonomy has to a large extent been seen as essential in instigating institutional vitality and creativity, and, through the Quality Reform, this development has been further strengthened and emphasised. Policies developed to strengthen quality are part of this development, and three broad areas of policy action can be identified in the reform:

- Quality improvement and quality assurance as part of the introduction of the bachelor-master degree structure (closer counselling of students, new forms of evaluation and student assessment, the establishment of a national quality assurance agency, etc), and balancing a more result-based funding scheme for higher education.

- Increased internationalisation of Norwegian higher education (student entitlement to mobility as part of home degree, and financial incentives for internationalisation)

- New governance arrangements for higher education (more discretion concerning the internal management, organisation and staff policies of HEIs, new funding arrangements, increased institutional autonomy, uniform rights and obligations to students and HEIs throughout private and public higher education, etc.)

416. The latter policy initiatives can in certain ways be regarded as a break with the past. Of course, quality assurance, internationalisation and governance are not novel areas in Norwegian higher education policy-making. The novelty aspect rather consists of the increased systematisation and the strong policy emphasis in these areas. As part of this effort, current political interest is focused on strengthening the strategic abilities and the autonomy of the HEIs, on developing new and more refined instruments for institutional and national monitoring and reporting of outcomes, and on changing the funding arrangements for HEIs towards rewarding outcomes and results rather than activities (see 11.3). In general, there is broad political agreement in Norway that higher education and research are vital to the future development of the country.

11.2 Strengths and weaknesses in tertiary education policy

417. On the basis of the initiatives taken, one of the strengths of Norwegian higher education policy has been the organisational ability to implement systematic and coherent reforms responding to the need for change in the sector. As one of the co-signers of the Bologna Declaration, Norway is currently actively implementing the elements agreed upon in Bologna, Prague and Berlin, paving the way for an integrated

European Higher Education Area. Related to this, Norway also has a strong interest in participating in building the European Research Area.

418. A second strength of the policy initiatives taken is that the commitments toward the Bologna Process have been sought balanced with domestic reform needs. Handling the growth in student numbers, the need to create an integrated and more efficient higher education sector, and to focus more on the outcome of the resources spent on higher education, are important domestic issues that have also been addressed as part of the Quality Reform.

419. A third strength is related to the way in which the recent reforms have been implemented. While part of the reforms represents a break with the past, the implementation process has nevertheless been characterised by continuous dialogue and consultations between HEIs and political authorities, including the use of a Royal Commission representing main stakeholders in higher education in the preparation of the reform. That the costs related to the Quality Reform were met by the Government is most probably another important element in creating the basis for this dialogue[41].

420. A final strength is related to the current political interest in up-holding the national distinctiveness of the Norwegian education system in a period characterised by increased internationalisation and globalisation of the sector. Hence, the Government still emphasises and safeguards overarching principles such as the overall responsibility for the system, equality and access to education for everyone, regardless of background. Further, in the 2004 Bill on higher education, the government proposes to introduce a provision that public higher education as a rule should be free of charge.

421. Statistics, evaluations and independent studies indicate that Norwegian higher education and research have several strengths. In a recent overview of the sector, Gornitzka (2003) found that Norwegian higher education is in fairly good shape in terms of academic quality, and that the relevance of study programmes in relation to the labour market is very high. Further, evaluations of Norwegian research have indicated that some academic field are of very high quality (e.g. Mathematics, information science, chemistry), and that research output is improving (e.g. measured in the numbers of citations received in international publications). However, even if it is too early to draw any definitive conclusions about the outcomes of the current reform efforts, some broad concerns can also be identified:

- Too few students – particular women – choose to study science subjects. Steps have recently been taken to improve the skills in these areas in primary and secondary education, but it is too early to predict whether this will have the desired effects on future recruitment at the tertiary level.

- Studies show that gender issues in higher education will remain important for future policy action. The majority of women still take short (3-year), vocational paramedical and social work programmes at university colleges. In

[41] The additional costs relating to the Quality Reform that were met by the government were related to increased costs due to new requirements, like for example more time for teaching and more individual counselling and guidance of students, and to meet the expectations and goals of the Quality Reform in more general terms. The extra funding was given in the budgets for 2003 and 2004 and was based on calculations made by the Norwegian Council for Higher Education. This funding amounts to a total of NOK 1 144 000 000 and constitutes a permanent increase in the funding of the sector in the sense that it is related to costs for introducing the reform which were not subtracted in the budget for 2005.

addition, the proportion of women in top academic positions is far below a satisfactory level.

- Monitoring the development in student drop-out, interruptions in study progression, and delays to graduation is of particular interest after the Quality Reform.

- There are still too few foreign students and staff coming to (and staying in) Norway as part of the internationalisation of the sector, and it is desirable that more Norwegian students and staff spend time abroad as part of their studies or academic work

- International reviews of Norwegian research have indicated some concerns relating to the quality of the research conducted in certain areas, and especially to research management.

- Statistics still show that Norwegian investment in R&D is below the OECD average. It was estimated that Norway's investments in R&D constituted 1.72 per cent of GDP in 2003, while the OECD average in 2002 was 2.26 per cent. A specific feature characterising research funding in Norway is the relatively low contribution from the private sector, compared to the OECD average. In this connection, an increase in the share of external funding of Norwegian HEIs would be of interest, especially from the private sector, since it is believed that this might also stimulate better cooperation between higher education and industry, and improve relevance in higher education study programmes.

- During the implementation phase of the Quality Reform, academic staff have expressed concerns about lack of time available for research, and the working conditions related to conducting research.

- Given the political objective that higher education in Norway should be research-based, it is important to evaluate the consequences of the Quality Reform according to this dimension. Of special concern is how changes in the institutional landscape following the Quality Reform might affect the way higher education is offered along the geographical dimension.

- Even if structural arrangements concerning the Competence Reform have been implemented and are working well, the effects of the reform are still below expectations, to a large extent due to little private funding.

11.3 Future policy developments

422. The above list of concerns constitute important areas for future policy-making in higher education in Norway. Still, in the short term, policy emphasis are likely to be on *consolidation* of higher education after a period of change and renewal. An evaluation of the Quality Reform is under way, and the first results from this process will be launched in the autumn 2005, with more comprehensive results to be published in 2006 and 2007. Major policy adjustments related to the Quality Reform will most probably await the results of this evaluation.

423. Addressing more long-term needs, future policy developments will focus on what is perceived as core issues for *balancing sustainability and continuous renewal* of Norwegian higher education. Important dimensions for future policy-making are:

- Strengthening the strategic abilities and autonomy of the HEIs. As illustrated in chapter 8, the governance arrangements of HEIs is high on the political agenda, and considered as important means of creating more dynamic, adaptive and innovative institutions. The increased institutional autonomy is not intended to alienate academic staff, or to reduce the overall responsibility of the Ministry of Education and Research for the system, however. There is thus a need for balancing a strong public commitment to higher education with stimulating institutional creativity and responsiveness. Identifying the subtle instruments and refined steering arrangements required for this to succeed are of high priority for the future. In this context, active participation in international processes and forums is important, as strategies of both national authorities and higher education institutions will have to be made with an international context in mind.
- Policy initiatives will be taken to develop new and more refined instruments for institutional and national monitoring and reporting of outcomes of higher education. Such instruments will have several purposes. First, they are intended to improve the basis for governmental decision-making and steering of the sector in a period when the institutional autonomy is increasing. Second, they are intended to increase transparency and information about the sector to its many stakeholders, including students, parents, industry and society in general. Legitimising higher education and research in the general public by making results known and, generally, enhance the interest in and knowledge about science and scientific activities is one of the important aims in this respect. As part of this process, the establishment of systems that address issues relating to student learning and learning outcomes is given high priority.

- Further refinement in the funding arrangements of HEIs, geared more towards rewarding accomplishments and results while safeguarding vulnerable and important academic areas and activities, will remain high on the priority list. Included in this efforts is a strong political interest in optimising the balance between the resources put into higher education and the overall outcomes of the sector, the balancing and linkages of resources put into education versus research, and in increasing other sources in the funding of higher education without jeopardising the principle that education should be free of charge.

References

Aftenposten (2003), "Dobbelt så mange studenter på attføring". *Aftenposten*, 23. september 2003.

Arnesen, C.Å. (1997), Arbeidsmarkedstilpasning for kandidater fra ulike læresteder. Rapport 1/97. Det norske universitetsråd

Arnesen, C.Å. & S. Try (2001), *Karakterers betydning for overgangen fra høyere utdanning til arbeidsmarkedet* Rapport 6/2001. Norsk institutt for studier av forskning og utdanning

Arnesen, C. Å & Try, S (1999) *Lønnsutvikling blant nyutdannede akademikere: tapte posisjoner?* Oslo: NIFU.

ASD (1997), *The National Insurance Act (Folketrygdloven).* Oslo, the Ministry of Labour and Government Administration.

Asplund, R., Barth, E., Le Grand, C., Mastekaasa, A. & Westergård Nielsen (1996) Wage distribution across individuals. In Wadensjö, E. (ed.) *The Nordic Labour Market in the 1990s*. Amsterdam: North-Holland.

Asplund, R. & P.T. Pereira (eds) (1999), *Returns to human capital in Europe: a literature review*. Helsinki, ETLA.

Barth, E., M. Røed, P. Schøne og H. Torp (2004), *Arbeidsmarkedet for akademikere*. Rapport 2004:9. Oslo. Institutt for samfunnsforskning

Berg, L. (1997) *Studieløpet*. NIFU rapport 3/97. Oslo

Berglund, F. (2004) *Høyere utdanning i"Vestviken". Status for høgskolene i Buskerud, Vestfold og Telemark.* NIFU skriftserie 18/2004. Oslo.

BDF (1997), *Norway's National Follow-up to the United Nations' Fourth World Conference on Women.* Oslo, the Ministry of Children and Family Affairs.

Bleiklie, I., Høstaker, R. & vabø, A. (2000) *Policy and Practice in Higher Education. Reforming Norwegian Universites*. London: Jessica Kingsley.

Brandt, E. (2002) Strategies by Norwegian universities to meet diversified market demands for continuing education. *Higher Education*, 44, 393-411.

Brandt, E. (2003) *Etter- og videreutdanning ved universitetene 1998-2002. Omfang, målgruppe, finansiering og opplegg*. Oslo: NIFU.

Brofoss, K. E. (2004) *En gjennomgang av Forskningsrådets fagevalueringer.* NIFU STEP arbeidsnotat 7/2004, Oslo.

Børing, P. (2004) *Studiegjennomføring og studiefrafall ved høgskolene*. NIFU skriftserie 15/2004.

Børing, P. & B. Stensaker (2004) *Et nasjonalt kvalifikasjonsrammeverk*. Oslo: NIFU STEP arbeidsnotat.

Båtevik, F.O., Vartdal, B. & Veddegjærde, G. (2003) *Evaluering av handlingsplan for studentar med funksjonshemming*. Møreforsk, Volda

Edvardsen, R. (1995), *Yrkesvalgmotiver. Resultater fra en undersøkelse om 16- og 18-åringers utdannings og yrkesplaner i 1991.* Rapport 4/95. Oslo, Utredningsinstituttet for forskning og høyere utdanning.

Egge, M. (1999), *Innovation in Education – What Works? Improving student motivation for lifelong learning*. Fafo-notat 1999:14. Oslo, Fafo.

Eurydice (1999), *Key topics in education. Volume 1. Financial support for students in higher education in Europe. Trends and debates.* Brussels, Eurydice, the information network on education in Europe.

Eurydice (2003), *Focus on the Structure of Higher Education in Europe 2003/2004. National Trends in the Bologna Process.* Brussels, Eurydice, the information network on education in Europe.

Eurydice (2004), *Summary sheets on education systems in Europe. Norway.* Brussels, Eurydice, the information network on education in Europe.

Fekjær, S.N. (2000), *Utdanning: Verdt å låne for? – Om klassebakgrunn betydning for studielånsopptak.* Hovedoppgave i sosiologi. Oslo, Institutt for sosiologi og samfunnsgeografi, Universitetet i Oslo.

Frølich, N. & B. Stensaker (2004) Internationalisation of Norwegian higher education (book chapter) forthcoming, Lemmens, Bonn.

Gornitzka, Å. (2003) *Kvalitet i norsk høyere utdanning i et internasjonalt perspektiv. En delutredning for Ryssdalutvalget.* NIFU skriftserie 25/2003, Oslo.

Hagen A. & Skule, S. (2004) *Det norske kompetansemarkedet – en oversikt og analyse*. Forskningsstiftelsen Fafo. Oslo.

Handal, G., K. Lycke & I. Hatlevik (1999) *Studiekvalitet i praksis*. Pedagogisk forskningsinstitutt, Universitetet i Oslo.

Hansen, M.N. (1999), "Utdanningspolitikk og ulikhet". *Tidsskrift for samfunnsforskning*, 1999:2, s. 172-203.

Hansen, M.N. (1999) utdanningspolitikk og ulikhet. Rekruttering til høyere utdanning 1985-1996. *Tidskrift for Samfunnsforskning*, 40, pp. 173-203.

Helland, H. & V. Opheim (2004), *Kartlegging av realkompetansereformen.* Oslo, NIFU (Skriftserie 6/2004).

Hægeland, T. (2002), Inntektsulikhet og avkastning av humankapital i Norge 1970-97. *Økonomisk forum* 6, 2002, s. 34-40.

Hægeland, T., T. J. Klette og K. G. Salvanes (1999), ”Declining returns to education in Norway? Comparing estimates across cohorts, sectors and over time.” *Scandinavian Journal of Economic*, 101, s. 555-576.

Imsen, G. (2003), *Skolemiljø, læringsmiljø og elevutbytte. Synteserapport fra prosjektet “Læringsmiljøets betydning for elevenes utbytte av skolen”*. Trondheim, Pedagogisk institutt, NTNU.

Jørgensen, T. (2000), Sosiale skjevheter forsterkes gjennom utdanningssystemet. *Samfunnsspeilet*, 6/2000. Oslo – Kongsvinger, Statistisk sentralbyrå.

KRD (2004), *Norwegian language training for immigrants in 2004*. Brochure. Oslo, The Ministry of Local Government and Regional Development.

Kyvik, S. (red.) (1999) *Evaluering av høgskolereformen*. Norges forskningsråd. Oslo.

Kyvik, S. & Smeby, J-C (2004) The academic workplace in Norway. In Enders, J. & de Weert, E. (eds) *The international attractiveness of the academic workplace in Europe*. Hans Böckler Stiftung, Berlin.

Kyvik, S., Olsen, T.B., & Hovdhaugen, E. (2003) *Opprykk til professor. Kompetanse eller konkurranse?* NIFU rapport 4/2003, Oslo.

KUF (2000), *The Development of Education 1991 – 2000*. National Report from Norway. Oslo, the Ministry of Education and Research, Research and Church Affairs.

KUF (1998), *Kompetansereformen*. St.meld. 42 (1998-1999). Government White Paper. Oslo, the Ministry of Education and Research, Research and Church Affairs.

Larsen, I. M., P.A.M. Maassen & B. Stensaker (2004) *Styring og ledelse av høyere utdanningsinstitusjoner. Nasjonale og internasjonale utviklingstrekk og erfaringer*. Oslo: NIFU STEP.

Ministry of Education and Research (2002) *Forskrift om akkreditering, evaluering og godkjenning etter lov om universiteter og høgskoler og lov om private høyskoler* (Foreløpig versjon) Utdannings- og forskningsdepartementet, Oslo.

Ministry of Education and Research (2003) *Kompetansereformen. Sammenstilling av tiltak og resultater knyttet til handlingsplanen for kompetansereformen.* Oslo: Utdannings- og forskningsdepartementet.

Ministry of Education and Research (2003a) *Equal education in practice* (*Likeverdig utdanning i praksis! Strategi for bedre læring og større deltakelse av språklige minoriteter i barnehage, skole og utdanning 2004-2009)*. Handlingsplan. Oslo, the Ministry of Education and Research and Research Affairs.

Ministry of Education and Research (2003b) *Education for All - National Action Plan for Norway in accordance with the World Education Forum Declaration, Dakar, 2001*. Oslo, the Ministry of Education and Research and Research Affairs.

Ministry of Education and Research (2003c) *Education*. Brochure. Oslo, the Ministry of Education and Research and Research Affairs.

Ministry of Education and Research (2003d) *Budget proposal for 2004*. Oslo: Ministry of Education and Research and Research.

Ministry of Education and Research (2004a) *The Development of Education 2000-2004. National report of Norway*. Report presented to the International conference on education, Forty-seventh session, Geneva. Oslo: Ministry of Education and Research and Research.

Ministry of Education and Research (2004b) St.prp.nr 1 for budsjetterminen 2005. Oslo: Ministry of Education and Research and Research

NIFU STEP, Technopolis (2004) *Evaluation of Norway's participation in the EU's 5th framework programmeme*. NIFU STEP, Oslo.

NOKUT (2004), *Education in Norway*. http://www.nokut.no/sw410.asp.

NOKUT (2003) *Kriterier for evaluering av universiteters og høgskolers kvalitetssikringssystem for utdanningsvirksomheten*. NOKUT, Oslo.

Norgesnettrådet (2001) *Knutepunktfunksjoner – funksjon eller symbol?* Norgesnettrådet, Oslo.

NOU (2000) *Frihet med ansvar. Om høgre utdanning i Norge*. Norges offentlige utredninger (2000: 14). Statens forvaltningstjeneste, Oslo

OECD (1988) *OECD-Vurdering av norsk utdanningspolitikk. Ekspertvurdering fra OECD.* Oslo: Aschehoug.

OECD (1997) *Economic Survey Norway*. Paris: OECD.

OECD (2000), *Thematic Review on Adult Learning. Norway Background Report.* Paris, OECD.

OECD (2002), *Reviews of National Policies for Education. Lifelong Learning in Norway*. Paris, OECD.

OECD (2003), *Education at a Glance*. Paris, OECD.

OECD (2004) *OECD Employment outlook*. Paris: OECD.

Opheim, V. & L.A. Støren (2001), *Innvandrerungdom og majoritetsungdom gjennom videregående til høyere utdanning. Utdanningsforløp. utdanningsaspirasjoner og realiserte utdanningsvalg*. Oslo, NIFU (Rapport 7/2001).

Opheim, V. (2002), *Kostbar kunnskap. Fordeling og tilbakebetaling av studielån etter inntekt, utdanning og sosial bakgrunn.* Skriftserie 16/2002. Oslo, Norsk institutt for studier av forskning og utdanning.

Opheim, V. & H. Helland (2004) *Evaluation of the Competence Reform in Norway: Access to higher education base don non-formal training.* Paper presented to the IMHE-conference 13-15 September, Paris: OECD.

RCN (2000). *Internasjonalisering av norsk forskning - Utfordringer, anbefalinger og tiltak*. Oslo: Norges forskningsråd 2000 (Research Council of Norway.)

RCN (2000a). *Mot en grenseløs forskningspolitikk?* Oslo: Norges forskningsråd 2000

RCN (2000b). *Om norsk deltakelse i internasjonalt forskningssamarbeid – Noen hovedtrekk.* Oslo: Norges forskningsråd 2000 (Research Council of Norway.)

RCN (2003). *Forskermobilitet til Norge*. Oslo: Norges forskningsråd 2003 (Research Council of Norway.)

RCN (2003b) Det norske forsknings- og innovasjonssystemet – statistikk og indikatorer, 2003. RCN. Oslo

Roedelé, S.M. & P.O. Aamodt (2001) *Studiemobilitet i høyere utdanning*. Oslo: NIFU.

Schøne, P. (2004), *Lønnsforskjeller i offentlig og privat sektor*. Rapport 2004:2. Oslo. Institutt for samfunnsforskning

SIU 2001: *Knowledge production between globalisation and local identity.* Summary and recommendations presented as an appendix to the Government Commission Report (Mjøs-Commission) English translation. Bergen. SIU, 6th June 2001

Smeby, J-C. (2001) Forskningsvilkår ved universiteter og vitenskapelige høyskoler, NIFU skriftserie nr. 16/2001. Oslo

SOS (2003), *Dismantling of Disabling Barriers. Strategies, objectives and political measures aimed at persons with a reduced functional ability*. St.meld.nr. 40 (2002-2003). Oslo, Ministry of Social Affairs.

St. meld. Nr 40 (1990-1991) *Fra visjon til virke. Om høgre utdanning*. Kirke-, utdannings- og forskningsdepartementet. Oslo.

St. meld. 12 (1984) *Om studiefinansiering* St. Melding 12 1983-84. Oslo: Ministry of Education and Research.

St. meld. 39 (1998-1999) *Forskning ved et tidskille*. Kirke-, utdannings- og forskningsdepartementet. Oslo.

St. meld. 27 (2001) *Gjør din plikt – krev din rett. Kvalitetsreform av høyere utdanning.* St.meld.27 2000-2001. Oslo: Ministry of Education and Research.

St. meld. 30 (2003-2004) *Kultur for læring*. Oslo: Ministry of Education and Research.

Sivertsen, G. & J-C. Smeby (2001). *Den nordiske overenskomsten om adgang til høgre utdanning – Et diskusjonsgrunnlag.* København: Nordisk Ministerråd (Nordic Council of Ministers) Høgre Utdanning ANP 2001:722.

Statistics Norway (2003), *Utdanning 2003 – ressurser, rekruttering og resultater*. Statistiske analyser. Oslo – Kongsvinger, Statistisk Sentralbyrå.

Statistics Norway (2004), *Pupils and students, 1 October 2003.* Education statistics. Oslo – Kongsvinger, Statistisk Sentralbyrå.

Stensaker, B. (1997) From accountability to opportunity: the role of quality assessments in Norway. *Quality in Higher Education*, 3, pp. 277-284.

Stensaker, B. (2000) *Høyere utdanning i endring. Dokumentasjon og drøfting av kvalitetsutviklingstiltak ved seks norske universiteter og høgskoler 1989-1999*. NIFU-rapport 6/2000, Oslo.

Stensaker, B. (2004) The blurring boundaries between accreditation and audit: the case of Norway. In Schwarz, S. & D.F. Westerheijden (eds.) *Accreditation and Evaluation in the European Higher Educatio Area.* Kluwer Academic Publishers, Dorndrecht.

Stewart, M. (1996) Nordic Wage Differentials: A view from outside. In Wadensjö, E. (ed.) *The Nordic Labour Market in the 1990s*. Amsterdam: North-Holland.

StL (2004) *Innspill til OECD-rapporten*. Oslo: Studentenes Landsforbund.

Sæther, B., Mønnesland, J., Onsager, K., Sørlie, K., & Arboe, P. (2000) Høgskolenes regionale betydning. Kortversjon. I NOU 2000: 14 *Frihet med ansvar. Om høgre utdanning og forskning i Norge.* Oslo: Statens forvaltningstjeneste.

Teigen, K. (1997) *Studievaner blant allmen- og ingeniørstudentene*. NIFU skriftserie 22/97.

The State Educational Loan Fund (2004), *Årsrapport 2003*. Oslo, the State Educational Loan Fund.

Vabø, A. & Smeby, J-C. (2003): *Evaluering av Leonardo da Vinci og Sokrates I Norge*. Oslo: NIFU Skriftserie 19/2003

VOX (2002). *Realkompetanseprosjektet 1999-2002 – i mål eller på startstreken. Sluttrapport*. Oslo: VOX Voksenopplæringsinstituttet.

Wiers-Jenssen, J. & P.O. Aamodt (2002) *Trivsel og innsats. Studenters tilfredshet med lærested og tid brukt til studier. Resultater fra "Stud.Mag" undersøkelsene*. NIFU rapport 1/2002).

Wiers-Jenssen, J. (1999). *Utlendighet eller utflukt? Norske studenters vurdering av å studere i utlandet*. Oslo: NIFU Rapport 9/1999

Wiers-Jenssen, J. (2003). *Over bekken etter vann? Hvorfor studere i utlandet når det finnes lignende tilbud i Norge*. Oslo: NIFU Skriftserie nr. 26/2003

Wiers-Jenssen, J. & Smeby, J.C. (2001): *Norsk deltakelse I Erasmus-programmemet. Perspektiver fra norske læresteder*. Oslo: NIFU Skriftserie 11/2001.

Wiers-Jenssen, J. & B. Stensaker & J. B. Grøgaard (2002) Student satisfaction. Towards an empirical deconstruction of the concept. *Quality in Higher Education*, 8, pp. 183-195.

Aamodt 2001) *Studiegjennomføring og studiefrafall. En statistisk oversikt*. NIFU skriftserie 14/2001. Oslo.

Annex: Tables and figures

Table 2.6 .Registered students – Headcount

- All students Autumn 2004, public and private higher education institutions

Name of institution	'Høgskole-kandidat' degree. (2.3 yrs)		Lower degree (bachelor, cand.mag.)		Continuing education		Master's degree		Higher degree (Hovedfag)		Professional studies (5-6 yrs)		Un-specified		Total	
	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total
Høgskolen i Bodø	112	213	1,927	2,829	313	414	205	360	92	212	0	0	0	0	**2,649**	**4,028**
Høgskolen i Finnmark	5	18	1,274	1,757	123	140	20	31	0	0	0	0	0	0	**1,422**	**1,946**
Høgskolen i Harstad	183	301	633	867	203	252	0	0	0	0	0	0	17	35	**1,036**	**1,455**
Høgskolen i Narvik	0	0	212	633	162	309	34	137	0	0	0	0	20	161	**428**	**1,240**
Høgskolen i Nesna	1	12	763	1,081	39	54	0	0	0	0	0	0	4	13	**807**	**1,160**
Høgskolen i Tromsø	64	130	1,434	2,065	521	621	0	0	0	0	0	0	4	60	**2,023**	**2,876**
Samisk høgskole	0	0	145	181	0	0	0	0	0	0	0	0	0	0	**145**	**181**
Høgskolen i Nord-Trøndelag	81	212	2,435	3,752	254	419	57	111	8	34	0	0	8	29	**2,843**	**4,557**
Høgskolen i Sør-Trøndelag	9	112	3,546	6,625	552	717	85	174	1	1	0	0	41	229	**4,234**	**7,858**
Høgskolen i Bergen	21	65	3,321	5,279	566	635	9	13	5	13	0	0	9	62	**3,931**	**6,067**
Høgskolen i Molde	39	68	743	1,311	152	204	46	115	0	0	0	0	0	0	**980**	**1,698**
Høgskolen i Sogn og Fjordane	44	104	1,407	2,053	544	683	74	84	40	63	0	0	1	12	**2,110**	**2,999**
Høgskolen i Stavanger	279	435	3,465	5,356	372	513	393	955	18	21	0	0	44	227	**4,571**	**7,507**
Høgskolen Stord/Haugesund	3	5	1,405	2,080	156	202	18	42	0	0	0	0	0	0	**1,582**	**2,329**
Høgskolen i Volda	7	12	1,880	2,716	12	16	177	239	0	0	0	0	0	0	**2,076**	**2,983**
Høgskolen i Ålesund	2	7	670	1,269	191	218	0	0	0	0	0	0	13	93	**876**	**1,587**
Høgskolen i Agder	13	39	4,213	6,910	382	522	229	628	120	261	0	0	11	130	**4,968**	**8,490**
Høgskolen i Akershus	22	58	1,632	2,222	666	843	85	121	70	114	0	0	0	0	**2,475**	**3,358**
Høgskolen i Buskerud	26	66	1,348	2,217	247	332	44	80	42	83	0	0	20	81	**1,727**	**2,859**
Høgskolen i Oslo	71	151	6,465	9,344	869	1,042	149	206	43	49	0	0	15	90	**7,612**	**10,882**
Høgskolen i Telemark	304	530	2,444	3,806	691	922	57	117	90	191	0	0	8	65	**3,594**	**5,631**
Høgskolen i Vestfold	13	44	2,367	3,585	470	553	62	69	0	0	0	0	13	65	**2,925**	**4,316**
Høgskolen i Østfold	16	33	2,375	3,744	710	881	141	279	45	57	0	0	22	85	**3,309**	**5,079**
Høgskolen i Gjøvik	1	1	952	1,634	129	173	26	144	0	0	0	0	0	0	**1,108**	**1,952**
Høgskolen i Hedmark	361	770	2,478	4,026	940	1,164	0	0	0	0	0	0	0	0	**3,779**	**5,960**
Høgskolen i Lillehammer	0	0	1,823	2,767	139	186	105	124	19	33	0	0	0	0	**2,086**	**3,110**
Universitetet i Oslo	0	0	10,519	17,642	74	120	3,634	6,394	1,405	2,476	2,428	3,883	0	0	**18,060**	**30,515**
Universitetet i Bergen	0	0	5,059	8,816	356	526	1,996	3,578	786	1,440	1,352	2,249	0	0	**9,549**	**16,609**
Universitetet i Tromsø	0	0	1,386	2,483	189	310	992	1,661	279	457	564	952	0	0	**3,410**	**5,863**
Norges teknisk-naturvitenskapelige universitet	0	0	4,742	8,276	165	273	3,064	9,159	719	1,190	604	935	80	158	**9,374**	**19,991**
Norges musikkhøgskole	0	0	180	358	14	20	47	64	39	73	0	0	1	1	**281**	**516**
Arkitektur- og designhøgskolen i Oslo	0	0	0	0	11	18	216	438	0	0	0	0	0	0	**227**	**456**
Norges handelshøgskole	0	0	382	1,043	0	2	184	473	408	1,077	0	0	0	0	**974**	**2,595**

Name of institution	'Høgskole-kandidat' degree. (2.3 yrs)		Lower degree (bachelor, cand.mag.)		Continuing education		Master's degree		Higher degree (Hovedfag)		Professional studies (5-6 yrs)		Un-specified		Total	
	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total
Norges veterinærhøgskole	27	27	0	0	3	7	13	15	0	0	285	349	0	0	**328**	**398**
Norges idrettshøgskole	0	0	243	574	324	508	63	129	0	1	0	0	0	0	**630**	**1,212**
Norges landbrukshøgskole	0	0	788	1,303	1	3	616	1,215	55	81	45	71	0	0	**1,505**	**2,673**
Kunsthøgskolen i Oslo	0	0	286	438	3	3	0	0	73	101	0	0	0	0	**362**	**542**
Kunsthøgskolen i Bergen	0	0	151	224	0	0	20	36	32	40	0	0	0	0	**203**	**300**
Diakonhjemmets høgskole, Oslo	0	0	624	728	453	557	161	203	0	0	0	0	0	0	**1,238**	**1,488**
Lovisenberg diakonale høgskole	0	0	524	593	221	257	0	0	0	0	0	0	0	0	**745**	**850**
Høyskolen Diakonova	0	0	286	311	186	194	0	0	0	0	0	0	0	0	**472**	**505**
Betanien diakonale høgskole	0	0	195	208	50	52	0	0	0	0	0	0	0	0	**245**	**260**
Diakonissehjemmets høgskole, Bergen	0	0	207	220	168	196	0	0	0	0	0	0	0	0	**375**	**416**
Rogaland Høgskole	0	0	330	396	21	32	0	0	0	0	0	0	0	0	**351**	**428**
Det teologiske menighetsfakultet	0	0	357	603	0	0	75	149	6	10	43	100	0	0	**481**	**862**
Misjonshøgskolen, Stavanger	0	0	134	249	0	0	17	43	0	0	2	11	0	0	**153**	**303**
Dronning Mauds Minne, preschool teacher education	0	0	578	676	99	106	0	0	0	0	0	0	0	0	**677**	**782**
Rudolf Steinerhøyskolen	0	0	132	156	0	0	0	0	0	0	0	0	0	0	**132**	**156**
Den norske eurytmihøyskole	0	0	21	23	0	0	0	0	0	0	0	0	0	0	**21**	**23**
Barratt Dues musikkinstitutt	0	0	38	65	9	9	2	4	0	0	0	0	0	0	**49**	**78**
Den norske balletthøyskole	0	0	36	39	0	0	0	0	0	0	0	0	0	0	**36**	**39**
Mediehøgskolen	0	0	109	209	0	0	0	0	0	0	0	0	0	0	**109**	**209**
Norsk Lærerakademi, Bachelor's and master's	0	0	457	622	0	0	56	93	23	35	0	0	0	0	**536**	**750**
Norsk Lærerakademi Teacher education	0	0	415	546	39	56	0	0	0	0	0	0	0	0	**454**	**602**
Ansgar Teologiske Høgskole	0	0	92	171	0	0	0	0	0	0	0	0	0	0	**92**	**171**
Høgskolen i Staffeldtsgate	0	0	69	123	0	0	0	0	0	0	0	0	0	0	**69**	**123**
Fjellhaug Misjonshøgskole	0	0	46	100	0	0	0	0	0	0	0	0	0	0	**46**	**100**
Handelshøyskolen BI	0	0	6,311	12,958	0	0	961	2,033	59	137	0	0	0	0	**7,331**	**15,128**
Norges Informasjonsteknologiske Høgskole	0	0	80	581	0	0	6	47	0	0	0	0	5	36	**91**	**664**
Bergen arkitektskole	0	0	0	0	0	0	0	0	0	0	67	127	0	0	**67**	**127**
Norsk reiselivshøyskole	0	0	235	288	0	0	0	0	0	0	0	0	0	0	**235**	**288**
Oslo Markedshøyskole	0	0	207	320	0	0	0	0	0	0	0	0	0	0	**207**	**320**
Høgskulen på Jæren	0	0	34	52	0	0	0	0	0	0	0	0	0	0	**34**	**52**
Total	1,704	3,413	86,610	141,503	11,789	15,264	14,139	29,763	4,477	8,250	5,390	8,677	336	1,632	**124,445**	**208,502**

Figure 3.1 Unemployment rates (as percentage of the labour force) by educational attainment levels

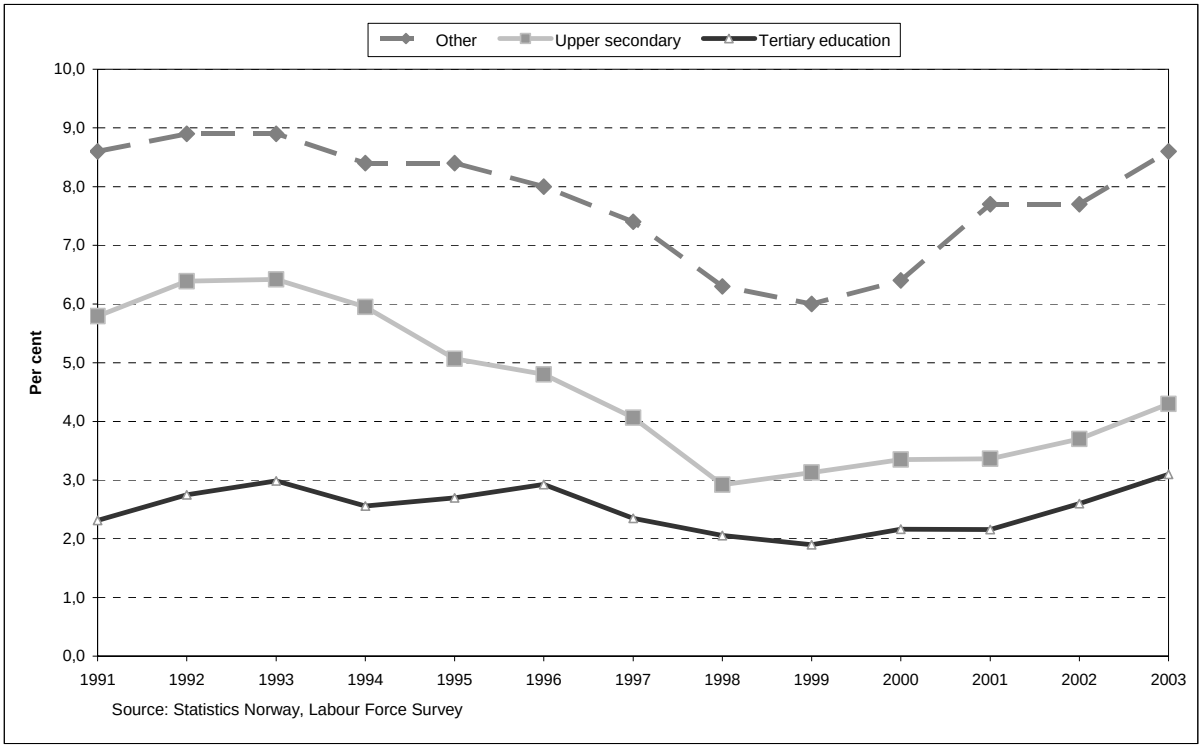


Figure 3.2 Employment rates (as percentage of whole population) by educational attainment levels

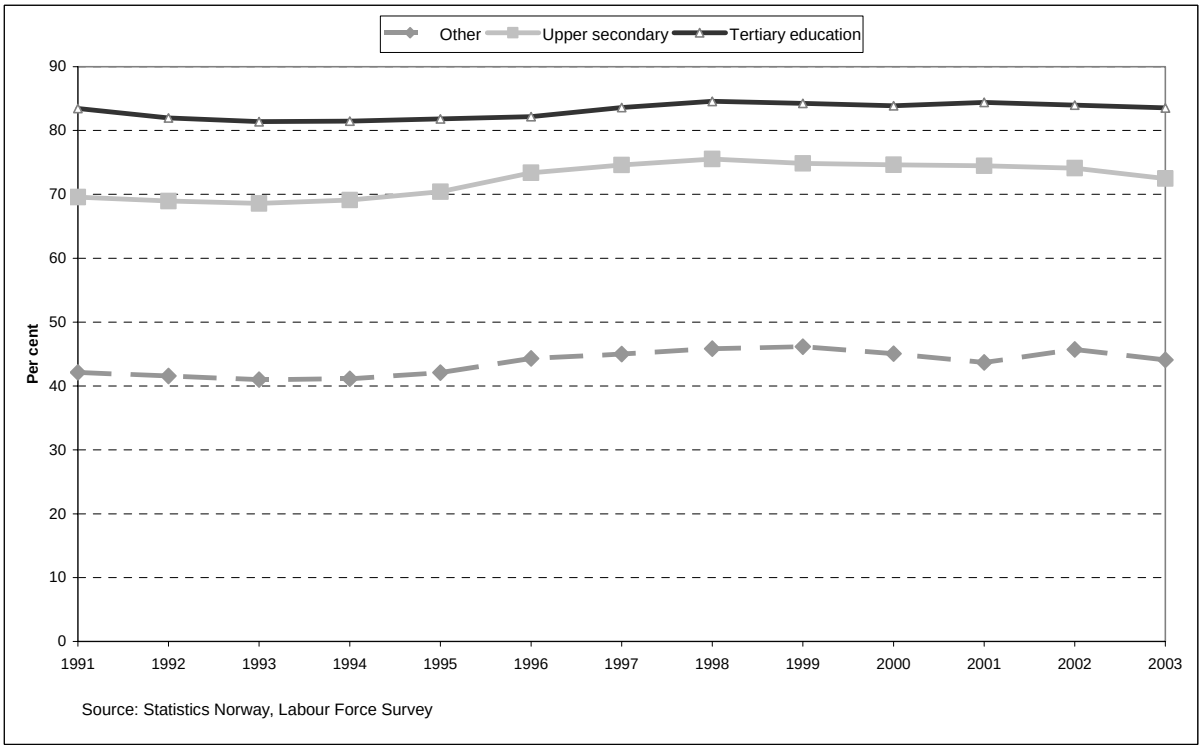
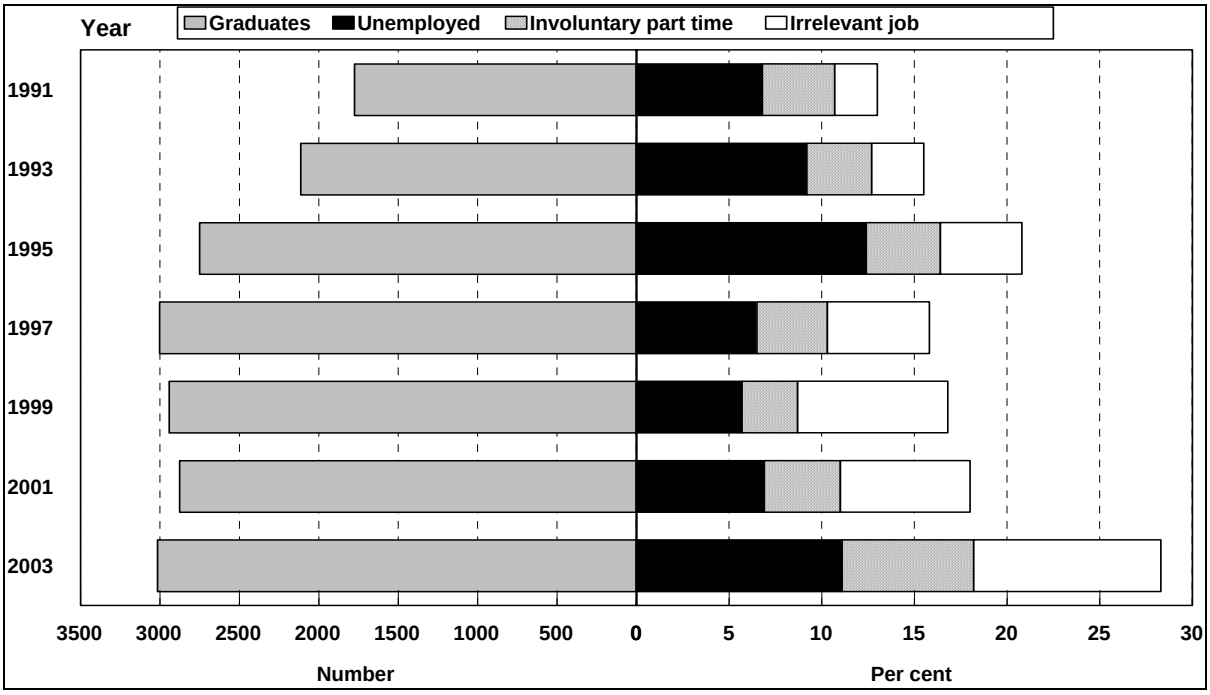


Figure 3.3 Higher degree graduates (master and equivalent) and mismatch in the labour market six months after graduation (spring cohorts)



Source: NIFU's Graduate survey

Figure 3.4 Number of students by type of institution

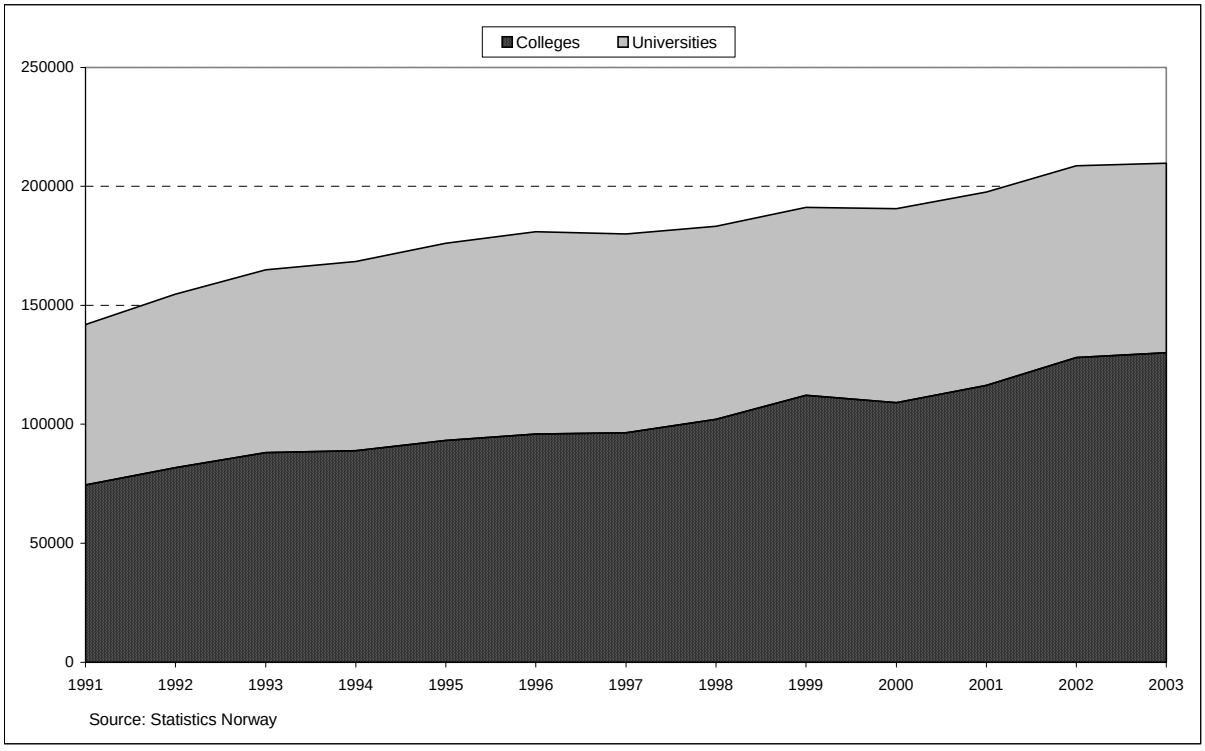
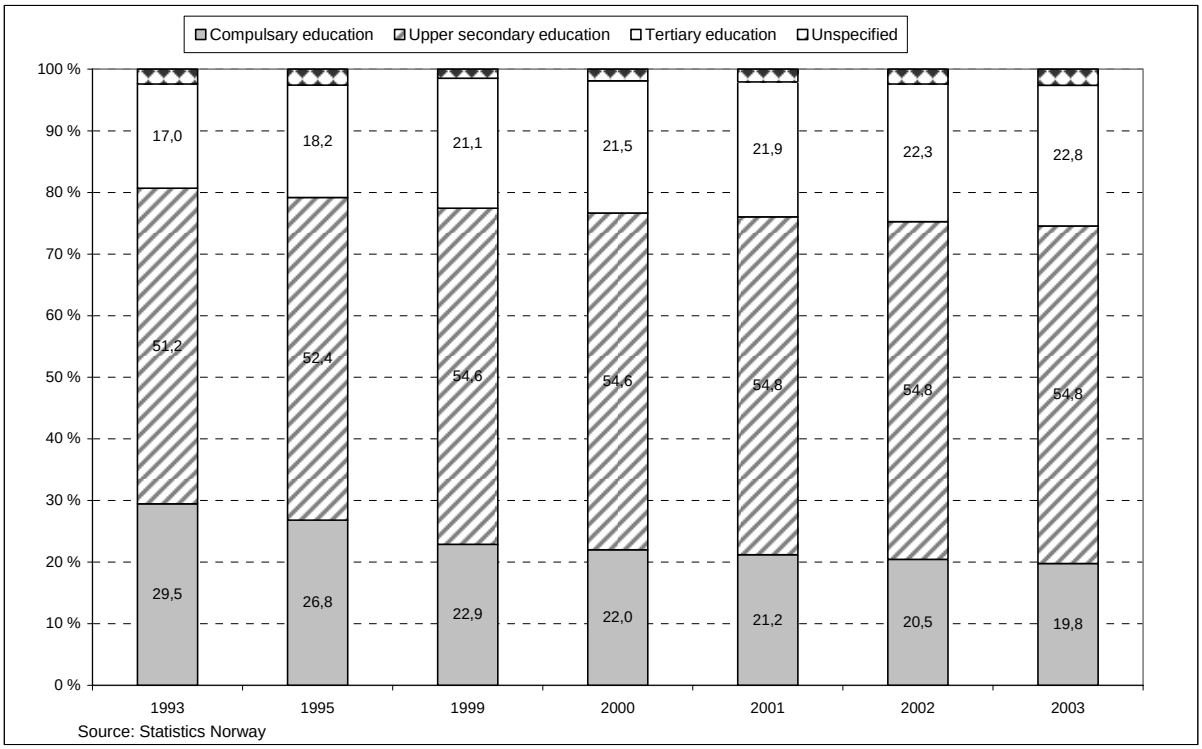


Figure 3.5 Population aged 16 or above by educational attainment in per cent.



Source: Statistics Norway

Table 3.1 Numbers of higher degree graduates and of higher degree graduates in the labour force, by unemployment, involuntary part time work, and irrelevant employment six months after graduation (Per cent).

	1991	1993	1995	1997	1999	2001	2003
Higher degree graduates, total							
Graduates, total	***1 775***	***2 114***	***2 751***	***3 002***	***2 942***	***2 877***	***3 015***
Unemployed	***6.8***	***9.2***	***12.4***	***6.5***	***5.7***	***6.9***	***11.1***
Involuntary part time	***3.9***	***3.5***	***4.0***	***3.8***	***3.0***	***4.1***	***7.1***
Irrelevant job	***2.3***	***2.8***	***4.4***	***5.5***	***8.1***	***7.0***	***10.1***
Of these:							
Humanities and esthetical subjects							
Graduates, total	145	203	366	488	478	503	523
Unemployed	7.3	7.0	5.4	7.3	4.4	6.9	6.6
Involuntary part time	11.8	12.7	12.9	11.9	6.3	9.4	15.7
Irrelevant job	1.8	3.2	4.0	9.5	11.7	12.5	11.3
Social sciences							
Graduates, total	214	329	412	399	474	459	526
Unemployed	8.5	8.8	14.4	8.1	6.0	9.0	9.7
Involuntary part time	2.4	3.8	3.8	4.4	3.1	3.5	8.9
Irrelevant job	3.6	5.8	4.5	7.8	10.0	8.5	12.3
Law							
Graduates, total	309	310	437	466	512	504	396
Unemployed	11.7	8.7	16.9	8.8	7.8	5.6	13.5
Involuntary part time	2.0	1.0	0.7	0.0	1.8	1.3	2.7
Irrelevant job	2.6	2.4	8.3	7.9	8.4	6.3	4.9
Natural science, craft and technological subjects							
Graduates, total	816	931	1 182	1 172	980	900	995
Unemployed	7.1	11.9	14.3	5.9	6.3	7.7	17.5
Involuntary part time	2.7	2.7	3.0	2.1	2.2	3.0	3.9
Irrelevant job	2.0	2.1	3.9	3.6	7.9	5.6	12.0
Health, welfare and sports							
Graduates, total	117	122	128	213	196	221	228
Unemployed	0.0	0.0	1.1	1.3	0.0	2.6	2.4
Involuntary part time	7.6	1.9	1.1	7.1	4.5	4.0	12.0
Irrelevant job	0.0	0.0	0.0	0.6	0.8	0.0	3.0

Source: NIFU, Graduate survey

Table 3.2 Average gross monthly salary for full time employed higher degree graduates six months after graduation by. Spring cohorts 1991-2003. Norwegian kroner (NOK). Running salary.

	Average monthly salary						
	1991	***1993***	***1995***	***1997***	***1999***	***2001***	***2003***
Higher degree graduates, total	***16 860***	***17 450***	***18 270***	***19 850***	***21 520***	***24 120***	***25 010***
Of these:							
Humanities and esthetical subjects	17 150	17 380	17 930	19 080	20 450	22 220	24 670
Social sciences	16 490	17 530	18 100	19 670	21 240	22 980	24 090
Law	16 730	17 310	17 770	18 960	21 310	24 190	24 220
Natural science, craft and technological subjects	17 120	17 450	18 410	20 320	21 930	24 900	24 800
Health, welfare and sports	17 850	18 000	18 780	21 510	23 650	25 870	27 570

Source: NIFU, Graduate survey

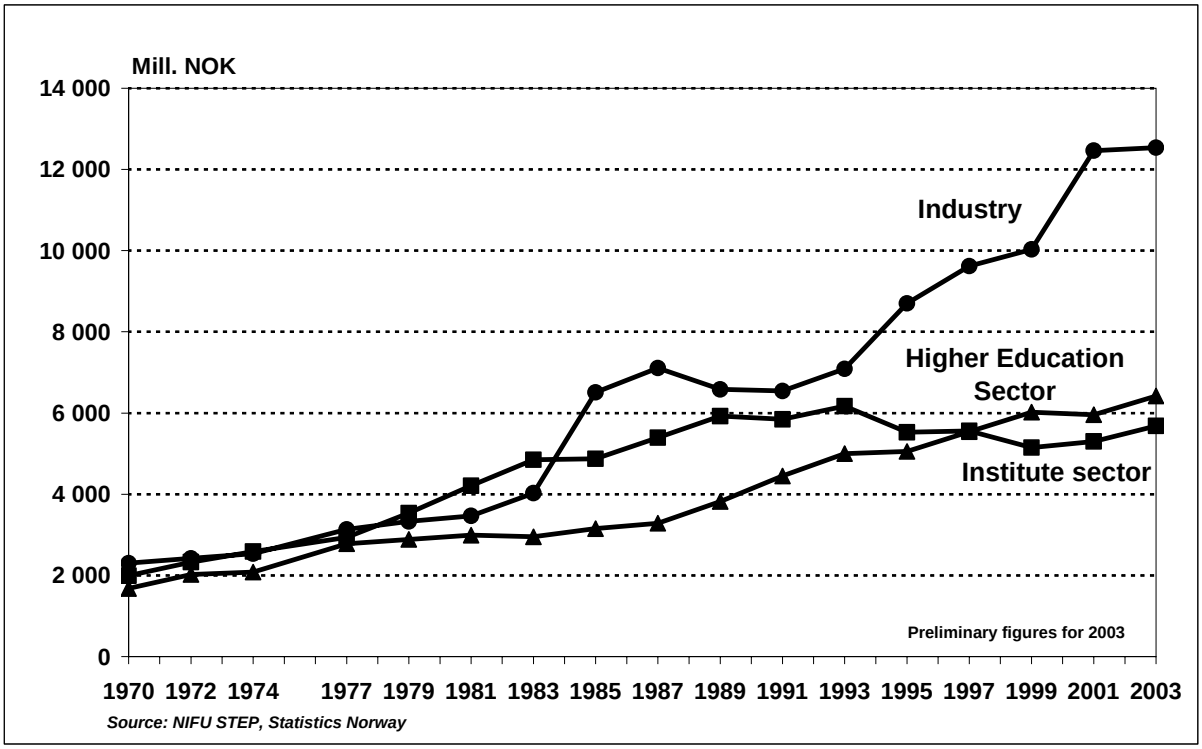
Table 3.3 Average monthly earnings[1] for full time employees by level of educational attainment. In NOK. Running earnings.

	1997	1998	1999	2000	2001	2002
Total	***20 665***	***22 263***	***23 176***	***24 404***	***25 517***	***27 226***
Compulsory education	18 085	19 425	20 128	20 960	21 884	23 110
Upper secondary education	19 278	20 731	21 555	22 587	23 532	24 917
Tertiary education, 1-4 years	22 823	24 707	25 694	27 177	28 701	30 715
Tertiary education, more than 4 years	28 561	30 750	31 996	33 754	35 784	38 237
Unspecified education	21 607	22 367	22 883	23 645	23 758	25 068

[1] Monthly earnings comprise of appointed earnings, irregular allowances, bonus, commission, etc. , not including pay for overtime

Source: Statistics Norway

Figure 5.2 Total R&D expenditure in Norway 1970-2003 by sector of performance. Million NOK. Fixed prices.



Performing sectors for R&D

According to the OECD guidelines, performing sectors form the basis for mapping the R&D contribution and is divided into the following categories.

- Business enterprise sector
- Government sector
- Private non-profit sector (PNP)
- Higher education sector

In Norway, the business enterprise sector encompasses the private business sector and units that mainly serve that sector. The government sector encompasses units in the institute sector that are connected with government and other public and semi-public institutions and public mission oriented institutes. There are few institutions in the PNP-sector. Thus, in reports to the OECD and other international statistics these institutions are included under the government sector. R&D performed in international institutions is not covered by international R&D statistics. For this reason, figures in national statistics deviate somewhat from those in international statistics. concerning the higher education sector, national and international statistics are identical.

Figure 5.3 Current expenditure on R&D in Norway in 2001 by scientific field and sector of performance.

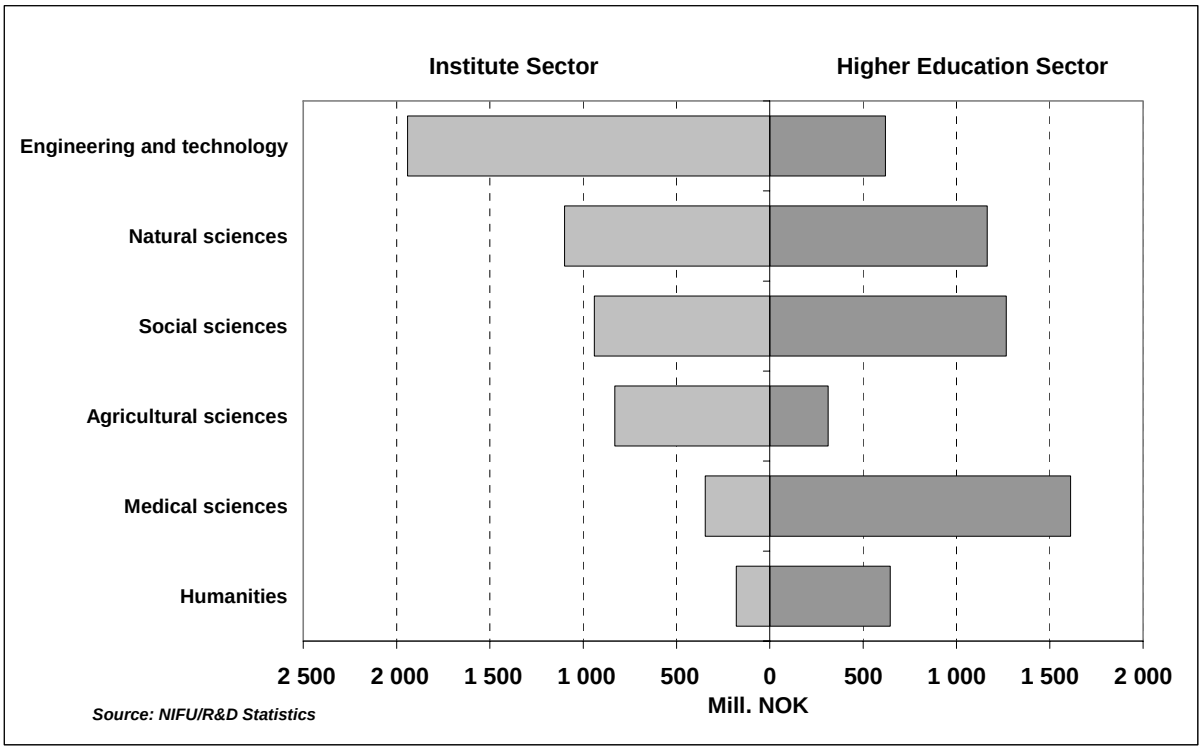


Figure 5.4 Current expenditure in higher education in Norway in 1991, 1995 and 2001 by type of activity. In per cent.

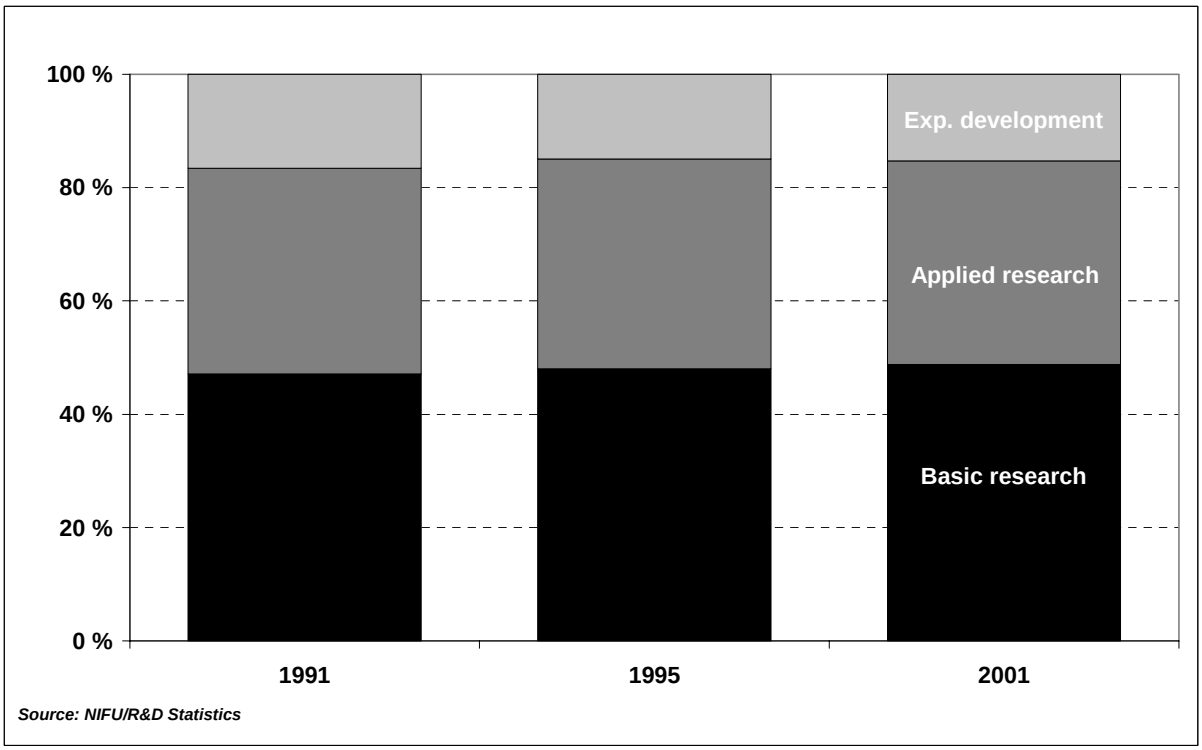


Table 5.1 Current R&D expenditures in higher education 1995-2001. Million NOK. Fixed prices.

	Humanities	Social sciences	Natural Sciences	Tech-nology	Medicine	Agric./ Fisheries / Vet.Sc.	TOTAL	Natural Science share of total
1995	431,5	737,1	958,8	393,9	929,8	229,0	3 680,1	26
1997	500,2	841,1	957,5	445,0	989,0	219,9	3 952,7	24
1999	474,9	942,4	927,3	438,6	1 079,8	241,9	4 182,3	22
2001	506,0	993,4	913,4	485,4	1 188,5	244,7	4 406,6	21
Changes in per cent 1995-2001	+ 2.7	+ 5.1	- 0.8	+ 3.5	+ 4.2	+ 1.1	+ 3.0	

Table 5.2 Total R&D man-years in higher education by scientific fields. 1995-2001.*

	1995	1997	1999	2001	Change in the period	Change in the period in per cent
Medicine	1 774	1 863	1 985	2 116	342	19%
Social Science	1 376	1 412	1 566	1 632	256	19%
Math./Science	1 832	1 698	1 669	1 570	- 262	- 14%
Humanities	784	879	858	908	124	16%
Technology	776	825	823	861	85	11%
Agri./Fisheries/Vet.Science	412	385	412	398	- 14	- 3%
TOTAL	6 955	7 063	7 313	7 486	531	8%

*** This includes both academic staff and technical support staff.**

Table 6.1: Participation rates in higher education (ISCED 5 and 6) in percentage of relevant cohorts enrolled in ISCED 5 and 6 programmes, and by population sub-groups. 1992, 1997 and 2002.

	2002	1997	1992
Students in higher education (ISCED 5 and 6), by typical ages of enrolment			
19 years	7 241	7 644	8 859
20 years	15 245	15 253	13 606
21 years	18 244	18 198	16 287
22 years	18 780	18 741	15 997
23 years	17 335	18 427	15 785
24 years	15 366	16 264	13 214
25 years	12 670	13 380	10 427
26 years	10 885	10 178	8 457
27 years	9402	7 798	6 673
28 years	8171	6 429	5 326
Total 19-28 years	133 339	132 312	114 631
Population by typical ages of enrolment in ISCED 5 and 6			
19 years	53 188	53 619	62 580
20 years	54 389	52 956	65 471
21 years	54 045	55 385	66 552
22 years	54 679	58 332	65 769
23 years	55 364	61 857	69 030
24 years	55 735	63 509	68 877
25 years	55 147	66 580	67 725
26 years	57 864	67 824	68 400
27 years	60 775	67 247	67 718
28 years	64 334	70 379	67 208
Total 19-28 years	565 520	617 688	669 330
Proportion (%) of students in ISCED 5 and 6, by age			
19 years	13,61	14,26	13,08
20 years	28,03	28,80	20,78
21 years	33,76	32,86	24,47
22 years	34,35	32,13	24,32
23 years	31,31	29,79	22,87
24 years	27,57	25,61	19,18
25 years	22,97	20,10	15,40
26 years	18,81	15,01	12,36
27 years	15,47	11,60	9,85
28 years	12,70	9,13	7,92
Socio-Economic Group, by parents' educational background			
Mother or father or both have attained ISCED 5 or 6	40,20	38,14	35,92
Mother or father or both have attained ISCED 3 or 4	18,00	17,47	14,21
Mother or father or both have attained ISCED 0, 1 or 2	7,87	7,16	5,66
Unknown, when both parents have unknown educational background	12,32	15,21	12,46
Location, urban or rural (regional)			
Urban[3]	23,57	22,00	19,60
Rural	21,87	18,82	9,21
Gender			
Male	19,94	19,01	16,04
Female	27,32	23,91	18,27
Immigration Status			
Without immigrant background[1]	24,75	22,07	17,52
First generation immigrants without Norwegian background	11,39	10,33	9,04
of which:			
Western countries	10,87	8,41	9,91
Non-western countries[2]	11,55	11,13	8,74
Persons born in Norway with two foreign-born parents	23,27	21,07	21,73
of which:			
Western countries	26,32	23,14	22,03
Non-western countries[2]	22,80	20,28	21,14

1 Category also includes persons ‘adopted abroad’, ‘foreign born with one parent born in Norway’, ‘born in Norway with one foreign parent’, ‘born abroad with both parents born in Norway’ and ‘unknown’.

2 Non-western countries = Asia (Turkey incl.), Africa, South- and Central-America, East-Europe, stateless and not specified.

3 A hub of buildings shall be registered as an urban settlement if it is inhabited by at least 200 persons (60 - 70 dwellings). The distance between the buildings shall normally not exceed 50 metres. Deviations are allowed for areas that cannot/are not to be occupied, for example parks, sports facilities, industrial areas or natural barriers such as rivers or arable land. Also included are agglomerations that naturally belong to the urban settlement with up to a distance of 400 meters from the centre of the urban settlement. Urban settlements are geographical areas with dynamic boundaries. Thus the number of urban settlements and their boundaries will change over time, depending on construction activity and changes of resident population. The delimitation of the urban settlements is independent of the administrative boundaries.

Table 6.2: Percentage of 30-34 year-olds who have completed higher education, by population sub-groups. 1992, 1997 and 2002.

	2002	1997	1992
Persons, aged 30-34, who have attained higher education (ISCED 5 and 6)			
30 years	24 851	19 736	14 744
31 years	24 775	19 149	14 866
32 years	23 747	18 524	14 931
33 years	24 379	18 181	15 252
34 years	23 497	17 095	15 332
Total (30-34 year-olds):	121 249	92 685	75 125
Population, aged 30-34			
30 years	68 753	68 879	63 954
31 years	69 808	69 363	63 681
32 years	69 369	68 683	63 202
33 years	71 948	68 007	63 915
34 years	71 598	65 615	63 659
Total (30-34 year-olds):	351 476	340 547	318 411
Percentage (%) of 30-34 year-olds who have attained at least upper secondary education			
30 years	36,15	28,65	23,05
31 years	35,49	27,61	23,34
32 years	34,23	26,97	23,62
33 years	33,88	26,73	23,86
34 years	32,82	26,05	24,08
Total (30-34 year-olds):	34,50	27,22	23,59
Socio-Economic Group, by parents' educational background			
Mother or father or both have attained ISCED 5 or 6	65,60	59,29	54,94
Mother or father or both have attained ISCED 3 or 4	31,08	25,74	23,95
Mother or father or both have attained ISCED 0, 1 or 2	13,25	11,82	10,04
Unknown, when both parents have unknown educational background	20,47	15,48	21,31
Location, urban or rural (regional)			
Urban[3]	37,63	30,39	26,76
Rural	21,66	16,08	12,94
Gender			
Male	30,39	25,07	22,29
Female	38,74	29,47	24,98
Immigration Status			
Without immigrant background[1]	36,12	28,44	23,69
First generation immigrants without Norwegian background	19,58	13,40	22,36
of which:			
Western countries	29,67	14,30	28,64
Non-western countries[2]	15,56	12,99	19,31
Persons born in Norway with two foreign born parents	39,08	29,46	24,35
of which:			
Western countries	43,09	29,05	26,03
Non-western countries[2]	31,84	30,71	20,81

1 Category also includes persons 'adopted abroad', 'foreign born with one parent born in Norway', 'born in Norway with one foreign parent', 'born abroad with both parents born in Norway' and 'unknown'.

2 Non-western countries = Asia (Turkey incl.), Africa, South- and Central-America, Eastern Europe, stateless and not specified.

3 A hub of buildings shall be registered as an urban settlement if it is inhabited by at least 200 persons (60 - 70 dwellings). The distance between the buildings shall normally not exceed 50 metres. Deviations are allowed for areas that cannot/are not to be occupied, for example parks, sports facilities, industrial areas or natural barriers such as rivers or arable land. Also included are agglomerations that naturally belong to the urban settlement with up to a distance of 400 meters from the centre of the urban settlement. Urban settlements are geographical areas with dynamic boundaries. Thus the number of urban settlements and their boundaries will change over time, depending on construction activity and changes of resident population. The delimitation of the urban settlements is independent of the administrative boundaries.

Table 6.3: Labour market participation by type of higher education completed and by population sub-groups. 1992, 1997 and 2002.

The percentage of the population, 25-64 years, who have attained higher education, employed or unemployed, broken down by type of higher education (ISCED 5A/5B and ISCED 6), and by population sub-groups

	2002		1997		1992	
	ISCED 5A/5B	ISCED 6	ISCED 5A/5B	ISCED 6	ISCED 5A/5B	ISCED 6
Percentage (%) of 25-64 year-olds who have attained tertiary level of education, by labour market participation	89,3	m	90,6	M	88,6	m
Socio-Economic Group, by parents' educational background						
Mother or father or both have attained ISCED 5 or 6	88,4	m	89,0	M	85,7	m
Mother or father or both have attained ISCED 3 or 4	91,4	m	92,2	M	89,6	m
Mother or father or both have attained ISCED 0, 1 or 2	90,4	m	92,2	M	92,3	m
Unknown, when both parents have unknown educational background	83,4	m	87,9	M	87,7	m
Location, urban or rural (regional)						
Urban[3]	89,3	m	90,6	M	88,5	m
Rural	89,1	m	90,8	M	89,6	m
Gender						
Male	91,8	m	93,8	M	90,8	m
Female	87,4	m	89,2	M	86,2	m
Immigration Status[0]						
Without immigrant background[1]	m	m	m	M	m	m
First generation immigrants without Norwegian background	m	m	m	M	m	m
of which:						
Western countries	m	m	m	M	m	m
Non-western countries[2]	m	m	m	M	m	m
Persons born in Norway with two foreign born parents	m	m	m	M	m	m
of which:						
Western countries	m	m	m	M	m	m
Non-western countries[2]	m	m	m	M	m	m

0 Due to sample bias it is not possible to give any results on immigration status from the Norwegian Labour Force Survey (LFS).

1 Category also includes persons 'adopted abroad', 'foreign born with one parent born in Norway', 'born in Norway with one foreign parent', 'born abroad with both parents born in Norway' and 'unknown'.

2 Non-western countries = Asia (Turkey incl.), Africa, South- and Central-America, East-Europe, stateless and not specified.

3 A hub of buildings shall be registered as an urban settlement if it is inhabited by at least 200 persons (60 - 70 dwellings). The distance between the buildings shall normally not exceed 50 metres. Deviations are allowed for areas that cannot/are not to be occupied, for example parks, sports facilities, industrial areas or natural barriers such as rivers or arable land. Also included are agglomerations that naturally belong to the urban settlement with up to a distance of 400 meters from the centre of the urban settlement. Urban settlements are geographical areas with dynamic boundaries. Thus the number of urban settlements and their boundaries will change over time, depending on construction activity and changes of resident population. The delimitation of the urban settlements is independent of the administrative boundaries.

4 The total population in group ISCED 6 is 2000 persons, and all of them are in the labour force. Due to sampling error, this amount is too small to give significant results.

Notes about country data

Percentages refer to the share of employed persons with higher educational attainment out of the total population with such educational background. The results are based on the Labour Force Survey (LFS), annual average.

Table 6.4 Teaching and research man-years (full-time equivalents) in Norwegian state higher education 2003 (per cent women in parenthesis)

	Universities		Specialized university institutions		State university colleges		National academies of the arts		Total all state institutions	
Professor	1 992	(16)	266	(11)	241	(14)	30	(51)	2 530	(16)
College Reader					37	(9)			37	(9)
Associate Professor (incl. senior lecturer)	1 323	(32)	294	(26)	1 372	(27)	26	(37)	3 014	(29)
Assistant Professor	562	(43)	87	(37)	2896	(54)	44	(58)	3 589	(51)
Adjunct Professor ('professor II')	139	(9)	21	(8)	28	(9)	3	(12)	191	(9)
Research Fellow	2 184	(43)	230	(49)	291	(49)	2	(0)	2 707	(44)
Researcher	352	(56)	78	(45)	11	(44)			442	(38)
Post Doc	540	(48)	35	(58)	14	(7)	0		588	(49)
Lecturer	7	(19)	4	(42)	800	(74)	4	(40)	815	(73)
Research Assistant	307	(49)	20	(58)	5	(45)	1	(0)	333	(49)
Other	158	(55)	15	(59)	11	(47)	1	(100)	184	(55)
Total	7 564	(34)	1 049	(31)	5 708	(48)	100	48	14 431	(39)

Source: DBH (St.prp. nr. 1 (2004-2005) - State budget for 2005)

Table 7.1 Academic Staff in Norwegian Higher Education, 2003, by type of institution.

	Universities	Specialized University institutions	University colleges	Total
Professor	1 977	364	229	2 570
	(77%)	(14%)	(9%)	(100%)
College reader			38	38
			(100%)	(100%)
Associate professor	1 250	418	962	2 630
	(48%)	(16%)	(36%)	(100%)
Senior lecturer	53	16	420	489
	(11%)	(3%)	(86%)	(100%)
Assistant professor	626	312	2 970	3 908
	(16%)	(8%)	(76%)	(100%)
Lecturer			943	943
			(100%)	(100%)
Researcher	664	123	115	902
	(73%)	(14%)	(13%)	(100%)
Post doc	647	42	13	702
	(92%)	(6%)	(2%)	(100%)
Research fellow	2 524	331	297	3 152
	(80%)	(11%)	(9%)	(100%)
Research assistant	369	23	8	400
	(92%)	(6%)	(2%)	(100%)
All academic staff	8 110	1 629	5 995	15 734
	(52%)	(10%)	(38%)	(100%)

Source: Research Personnel Register, NIFU STEP

Table 7.2 Per cent of tenured academic staff at the universities reporting that the following conditions caused many problems for their possibility to undertake research in 1982 and 2001.

	1982	2001
Lack of uninterrupted time	---	57
Academic climate	8	6
Available research resources	27	33
Library conditions	7	6
Possibilities for travels	13	10
Teaching	23	15
Supervision	10	7
Administration	41	26
Technical equipment	10	12
Technical assistance	25	23
Family responsibilities	9	5
(N)	(1 047)	(1 436)

Table 7.3 Academic Staff Salaries compared to average wage level for state employees 1991 – 2003, in NOK

	1011 Associate Professors*	**1013 Professors ***	**State Average (STS Table 350**)**
1991	251 775	293 926	182 700
1992	251 775	293 926	185 400
1993	263 772	307 693	192 084
1994	265 900	309 800	197 292
1995	269 500	313 400	203 112
1996	275 500	332 000	214 668
1997	293 700	353 500	227 448
1998	314 700	377 000	245 964
1999	320 300	384 000	259 548
2000	336 900	396 000	273 360
2001	364 200	413 700	285 264
2002	388 900	443 000	304 464
2003	396 100	459 500	316 356

Source: STS, *Statens sentrale tjenestemannsregister* (the State's Central Staff Register) per 1 October each year.

All salaries and wages are nominal and in NOK, and they are all gross figures, i.e. before deduction of taxes.

* The salary levels indicated for academic staff are medians – i.e. *not* averages, but rather the most typical salary level for each category in any given year.
(Source STS Table 305: distribution according to standard state pay rates (*lønnstrinn*).

** STS Table 350 indicates average standard monthly wages for all state employees, without supplementary compensations (*bruttoregulativlønn*).

Figure 7.1 The age distribution of academic staff in 1981, 1991 and 2003.

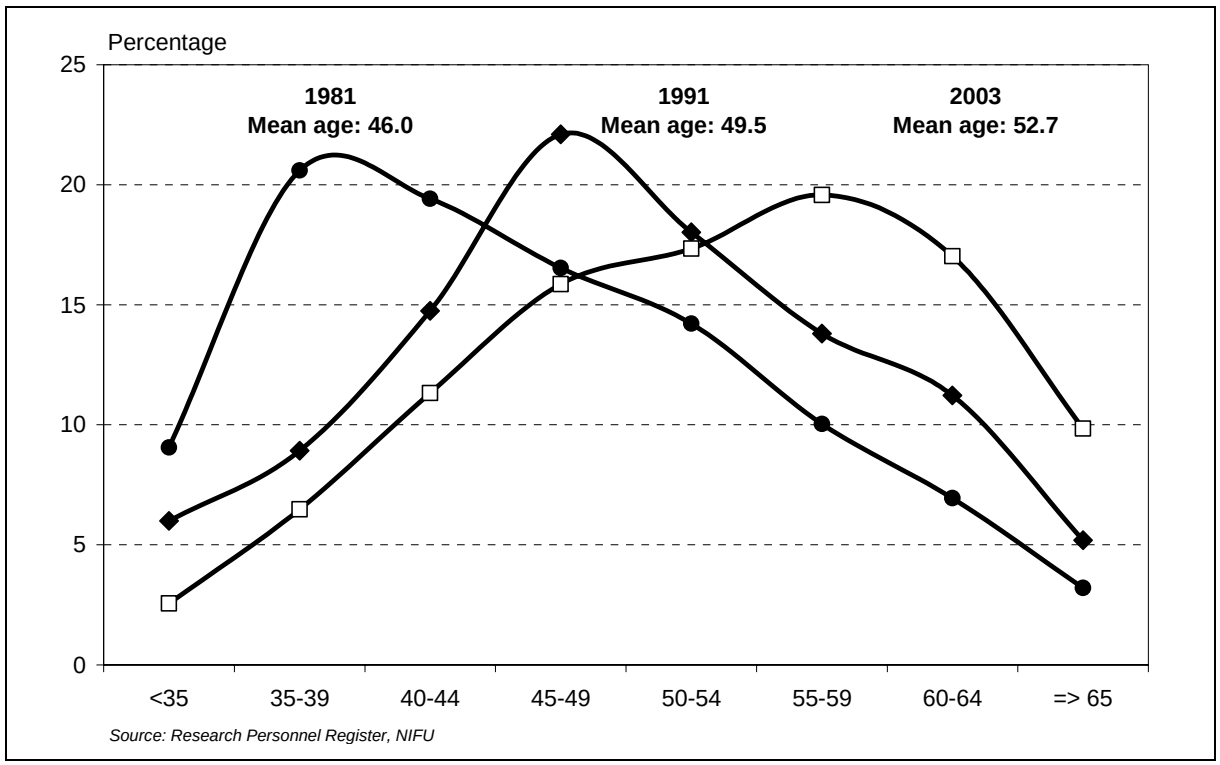


Table 7.5a. Total expenditures for universities, specialised universities and university colleges 1995 and 2001 by source of funds.

Source of funds	1995 Million NOK	1995 Per cent	2001 Million NOK	2001 Per cent
Government	11 046	95	17 047	93
Private	557	5	1 066	6
Abroad	69	0	192	1
Total	11 672	100	18 305	100

Source: NIFU STEP/Total figures for Higher Education Institutions performing R&D

Table 7.5b. Total expenditures for universities, specialised universities and university colleges 1995 and 2001 by source of funds. Fixed 1995 prices.

Source of funds	1995 Million NOK	2001 Million NOK
Government	11 046	13 627
Private	557	852
Abroad	69	153
Total	11 672	14 632

Table 7.5c Total expenditures at universities in Norway distributed by General university funds (block grants) and external funding in 1995 and 2001*. Million NOK. Fixed 1995 prices.

Type of funds	1995 Million NOK	1995 Per cent	2001 Million NOK	2001 Per cent
General university funds	5 187	82	6 867	79
External funding	1 104	18	1 811	21
Total	6 291	100	8 678	100

– The table includes all expenditures at the four (pre-2005) universities in Norway. It shows that 82 per cent of the total were funded by general university funds (GUF) in 1995 and 18 per cent by external funding. In 2001, 79 per cent were funded by GUF and 21 per cent by direct funding or external funding. All GUF are financed as a block grant by the Ministry of Education and Research following budgetary decisions in the *Storting*. For the external funding more than 60 per cent are funded by the Research Council of Norway (both years). The rest of the direct funding is money from business enterprises, private foundations and from abroad. The data include expenditures for all teaching activities as well as research, research training, administration and other related activities. Looking at the higher education sector as a whole, GUF represents a larger share of the funding as most of the external funding goes to research activities at the universities. The share of research is much lower at the other institutions. For research activities, only 67 per cent were funded by GUF in 1995. The share decreased to 62 per cent in 2001 and hence 38 per cent from external sources.

Table 7.6 Budget components for categories of higher education institutions. State budget for 2002. In per cent

Type of institutions	**Basic**	**Teaching**	**Research**	**Total**
Universities	57	22	22	101
Specialized university institutions	57	24	19	100
University colleges	63	31	6	100
Total Higher Education	59	26	15	100

Table 7.7 Categories and weights of studies in the financing model

Category	**Studies**	**Weight**
A	Clinical studies	4
B	Professional education in music, architecture and design	3
C	Master degree studies in natural sciences	2
D	Master degree studies (general) and lower level/bachelor degrees studies in expensive areas	1.5
E	Lower level/bachelor degree studies except for social studies and theoretical areas	1.25
F	Lower level/bachelor degree studies, social studies and theoretical areas	1

Table 7.8 Categories and weights for the indicators on research

Indicator	Universities	specialized university institutions	University colleges
Doctoral degrees	0.3	0.3	
Master's degrees	0.1	0.1	
EU funding	0.03	0.016	
Research Council	0.17	0.184	
Professor, Assoc. Prof. positions	0.4	0.4	0.4
External funding, contract research			0.2
Study points			0.4
Total	1.0	1.0	1.0

Student–staff ratio

Table 7.9 Students per academic staff in the period 1994-2004:

Year	Universities	University Colleges
2004	8.99	16.95
2002	10.58	17.09
2000	11.43	16.99
1997	12.32	17.49
1994	11.71	insufficient data

Source: DBH (Database for higher education)

Inconsistencies with other figures in the report are due to the fact that in this table, research fellows are counted as academic staff.

In 2001, there were on average 12.7 students per academic staff in Norway, compared to an average of 14.7 in OECD countries[42]. (Sweden had 9.3 students per academic staff, Iceland 7.9, the UK 17.6, the USA 13.5, Germany 12.1, the Netherlands 12.6.)
Source: Education at Glance 2002, Table D2.2.

Table 7.10 Student-staff ratio by type of higher education institution in 2001:

	No. of registered students per academic staff
Universities	11.8
Specialised university institutions	7.8
State university colleges	16.2
National academies of the arts	7.6
Average[43]	13.2

Source: DBH, 2001.

[42] Countries in EaG.
[43] Differences with OECD figures are due to differences in definitions.

Costs per student in higher education:

As a basis for the calculation of framework allocations to the HEIs (block grants, often referred to as GUF, General University Funds, in this report) in the funding system for higher education that was introduced in 2002, study programmes are divided into six funding categories – according to levels and types of studies concerned, equipment and human resources needed, etc. The idea behind these categories is to take into account differences in costs per student.

Table 7.11 below shows the basic component (60 %) and the education component (40 %) combined. The latter depends on the number of credits produced by the students. The rates were introduced in 2002 and have later been adjusted for inflation.

Table 7.11 Total of basic and education components for the six funding categories in 2002 and 2005

Funding category	Examples of types of study for each category	Rates per full-time student, 60 credits, in NOK	
		2002	2005
A	Medicine, some art programmes	240 000	255 000
B	Psychology, some music programmes	180 000	195 000
C	Master studies in science, certain special subject teacher education programmes (music for instance)	120 000	130 000
D	Master degree programmes in social sciences, bachelor's degree in physiotherapy	90 000	95 000
E	Teacher education, bachelor's degree in nursing	75 000	80 000
F	Bachelor's degree in social sciences	60 000	65 000
Internationalisation	No. of students on international exchanges, incoming and outgoing	5 000	5 400

Average costs of studies:

To calculate the average cost per student in higher education is quite a complex operation. There are two reports or studies in which this has been done: one Green Paper from 1998 *(kostnadsberegningsutvalget, NOU 1998:6)* on the average cost per student at the state university colleges and the specialised university institutions in the period 1992 – 1998, and a study from 2003, made by a working group with members from the Ministry of Education and Research and the universities, on the average cost per student at the universities in the period 1998 – 2003.

In our opinion, these calculations (see Tables 7.12 and 7.13), together with the "rates" per funding category of studies mentioned above, give a good impression of the evolution of the cost per student in the period covered by the report.

Table 7.12 Costs per student in 1992 – 1998 in fixed expenses (1992), in 1000 NOK, at state university colleges and specialised university institutions:

Year	1992	1993	1994	1995	1996	1997	1998	92/97	94/97
State university colleges and specialized university institutions	47,01	47,54	48,84	49,48	49,53	48,61	48,33	3.4%	-0.5%
University Sector	58,04	59,24	57,48	56,20	59,64	60,20	59,21	3.7%	4.7%

Source: NOU 1998:6

Table 7.13 Costs per university student in 1998 – 2003 in fixed expenses (1998), in 1000 NOK

University	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Oslo	55,5	59,8	62,5	64,3	67,6	69,9
Bergen	61,4	67,1	70,9	73,3	76,6	80,8
NTNU (Trondheim)	78,3	84,0	88,0	89,9	96,7	100,0
Tromsø	91,2	99,8	105,1	107,0	113,5	119,5

Annex to Chapter 7.9: The system of financial support for students

The Ministry of Education and Research issues yearly regulations to Act of 26 April 1985 No. 21 with amendments, on the financial support available for students through the State Educational Loan Fund (‘*Statens lånekasse for utdanning’*). The regulations specify the conditions for entitlements and the maximum rates for the various types of loans and grants. The distribution between loans and grants is thus a result of the maximum amount of grants individual students are entitled to and the total amount of support they apply for (within the limits set).

The average total amount of loans and grants awarded to students in Norway in the academic year 2003–04 was NOK 70 872.[44]

- The average sum borrowed was NOK 50 634. This includes loans for tuition fees and relates to loans awarded before the conversion from loans to grants following successful and timely completion of studies.
- The average grant awarded (all types) amounts to NOK 21 469 before any possible conversion to loans takes place. (If the Loan Fund discovers that the student has received grants on false premises, the grant is converted to a loan, or the student is required to pay back the amount unlawfully received immediately.)
- The average educational grant awarded was NOK 17 617. This amounts to 25 per cent of the average total amount of loans and grants awarded. Conversion of loans to grants will increase the average grant received with about NOK 10 570, so that the total average grant will be NOK 28 187 for a student that completes his/her education according to schedule.
- The average travel grant awarded for travels within Norway was NOK 2 124.

[44] Students included in the numbers below have received support for 3-12 months in the academic year 2003-2004.

Academic progression:

- About 17 per cent of the students who had employment income exceeding the limit did not get their loans converted to grants as a result of unsatisfactory academic progression. There is no difference between the students that earned less and those who earned more than the maximum amount in this context.

Repayment:

- In 2004, the Loan Fund had 476 130 customers who were repaying their loans, and their average debt was NOK 124 000.
- The average payment throughout the year was NOK 12 500. This includes instalments, interests, fees, expenses and extraordinary payments.

Students' employment income:

- The Loan Fund's statistics do not include information relating to the average income from employment for all students or workers.
- The Loan Fund's statistics on student income are limited to those whose income exceeds the amount students are entitled to earn per year without having their grants reduced.[45]
- In 2003, 16 341 of the students receiving financial support from the Loan Fund throughout the year had an income exceeding the sum they were entitled to earn without a grant reduction. In 2003, the average income from employment was NOK 157 465 for this group.

The numbers above include only students with income from work. Students who receive national insurance benefit are not included in these numbers.

[45] Students could earn up to NOK 100 000 in 2003, NOK 104 500 in 2004 and 108 680 in 2005 without having their grants reduced. However, when the amount earned exceeds this sum, the grant will be reduced. The Loan Fund gets information regarding students' income through tax assessments.

Table 10.1 Number of Norwegian full degree students abroad with financial support from the State Educational Loan Fund (i.e. not including students on exchanges and mobility programmes)*

	1998-99	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Europe	10 012	10 218	9 574	9 353	9 465	10 466
USA/Canada	2 120	1 972	1 848	1 669	1 453	1 308
Oceania	1 062	2 055	3 168	3 854	4 116	3 886
Other countries	159	190	155	162	172	274
Total	13 353	14 435	14 745	15 038	15 206	15 064

Source: State Educational Loan Fund

* The number of students on exchanges and placements abroad recognised as part of their home degree and with support from the State Educational Loan Fund in addition increased from 4 673 in 2000-2001 to 6 328 in 2003-2004.

Table 10.2 Number of incoming and outgoing students within formal student exchange programmes 2003. (private HEIs included)*

	Socrates/Erasmus	NORDPLUS	Bilateral agreements	Other programmes	Total
Total Incoming	1 479	263	444	471	2 657
Total outgoing	1 076	249	1 123	330	2 778

*** Quota students not included. The number of quota-students were 447.**

Source: State Educational Loan Fund

Table 10.3 Number of Erasmus students to and from Norway

Academic year	**In**	**Out**
1992–93	155	474
1994–95	554	980
1995–96	727	1 212
1997–98	744	1 071
2000–01	980	1 008
2001–02	1 100	970
2002–03	1 244	1 010
2003-04	1 523	1 156

Source: SIU

Table 10.4 Number of Erasmus teacher exchanges to and from Norway

Academic year	In	Out
2000–01	165	171
2001–02	170	229
2002–03	175	233
2003–04	197	245

Abbreviations

DBH	Database for Higher Education
ECTS	European Credit Transfer System
ERA	European Research Area
FTE	Full Time Equivalent
GATS	General Agreement on Trade and services
GUF	General University Funds
HEI	Higher education institution
ICT	Information and Communication Technology
IPR	Intellectual Property Right
ISCED	International Standard Classification of Education
KUF	Ministry of Education, Research and Church Affairs (name of ministry 1991–2001)
LFS	Norwegian Labour Force Survey
NIFU STEP	Norwegian Institute for Studies in Research and Higher Education - Centre for Innovation Studies.
NOK	Norwegian kroner (8 NOK is about 1 EURO)
NOKUT	Norwegian Agency for Quality Assurance in Education
NORAD	Norwegian Agency for Development Cooperation
NOU	Green Paper (‘Norsk offentlig utredning’)
R&D	Research and Development
RCN	Research Council of Norway
SIU	Norwegian Centre for International Cooperation in Higher Education
SSB	Statistics Norway
St.meld.	White paper
St.prp.	Proposition to the Storting (national assembly); often concern budgets
TTO	Technology Transfer Office
UCAS	Universities and Colleges Admission Service
UFD	Ministry of Education and Research
UHR	Norwegian Council for Higher Education

Key terms

Competence Reform	Reform aimed at documenting and valuing non-formal and informal competence with legitimacy both within the educational system and the labour market
Quality Reform	Reform of Norwegian higher education 2001–05 responding to the Bologna Process and national needs
Norwegian Centre for International Cooperation in Higher Education (SIU)	Government agency to promote internationalisation of higher education, and to run various international programmes in education and research
Norwegian Council for Higher Education	The interest organisation for public higher education institutions (equivalent to the Rector's conference in other countries)
Norwegian Agency for Quality Assurance in Education (NOKUT)	Government agency for the evaluation and accreditation of tertiary education, and the recognition of international higher education qualifications
Research Council of Norway	Governmental agency for the funding and evaluation of research in higher education and the institute sector
Sámi	An indigenous population in Norway (sometimes incorrectly referred to as 'Laplanders')
Specialized university institutions	Higher education institutions at university level – including the right to award doctoral degrees – in one particular field of science (e.g. architecture, veterinary science, etc.).
Storting	The Norwegian national assembly ('Parliament').
University colleges	Higher education institutions mostly offering studies at bachelor level (e.g. in teacher education, engineering, nursing,

	business administration), but with an increasing number of master's (and even ph.d) studies.
Universities	Higher education institutions offering ph.d studies in a number of scientific areas
Technology Transfer Offices	Owned by higher education institutions to assist in converting scientific ideas into industry products, patents, etc.
Vocational College Education	Tertiary (ISCED 4) education outside higher education institutions within areas such as naval education, technical education, etc.